The Journal

Michigan

STATE MEDICAL SOCIETY

May, 1959

Volume 59

Number 5

Beaumont Memorial Foundation Number

Pioneers of American Medicine

"Beaumont and St. Martin." Dean Cornwell here depicts one of the great episodes in medical history. Dr. William Beaumont is shown in deep thought, while collecting gastric juice through the gunshot wound of Alexis St. Martin—"the wound which never healed." Beaumont's aim: new light on the mystery of the digestive process.

Beaumont and St. Martin

in epilepsy

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"The most effective form of psychotherapy is to demonstrate to the patient that his seizures can be adequately controlled by the use of anticonvulsant medication."[1]

REQUISITE FOR THERAPY:
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effective anticonvulsants for most clinical needs

bibliography: (1) Carter, S. M.: *M. Clin. North America:* **315** (March) 1953. (2) Chao, D. H.: *Ibid.*, p. 465. (3) Goodman, L. S., & Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 2, New York, MacMillan Company, 1955, p. 187. (4) Davidson, D. T., Jr., in Conn, H. F.: Current Therapy 1958, Philadelphia, W. B. Saunders Company, 1958, p. 568. (5) Zimmerman, F. T.: *New York J. Med.* **55**:2338, 1955. (6) French, E. G.; Rey-Bellet, J., & Lennox, W. G.: *New England J. Med.* **258**:892 (May 1) 1958.

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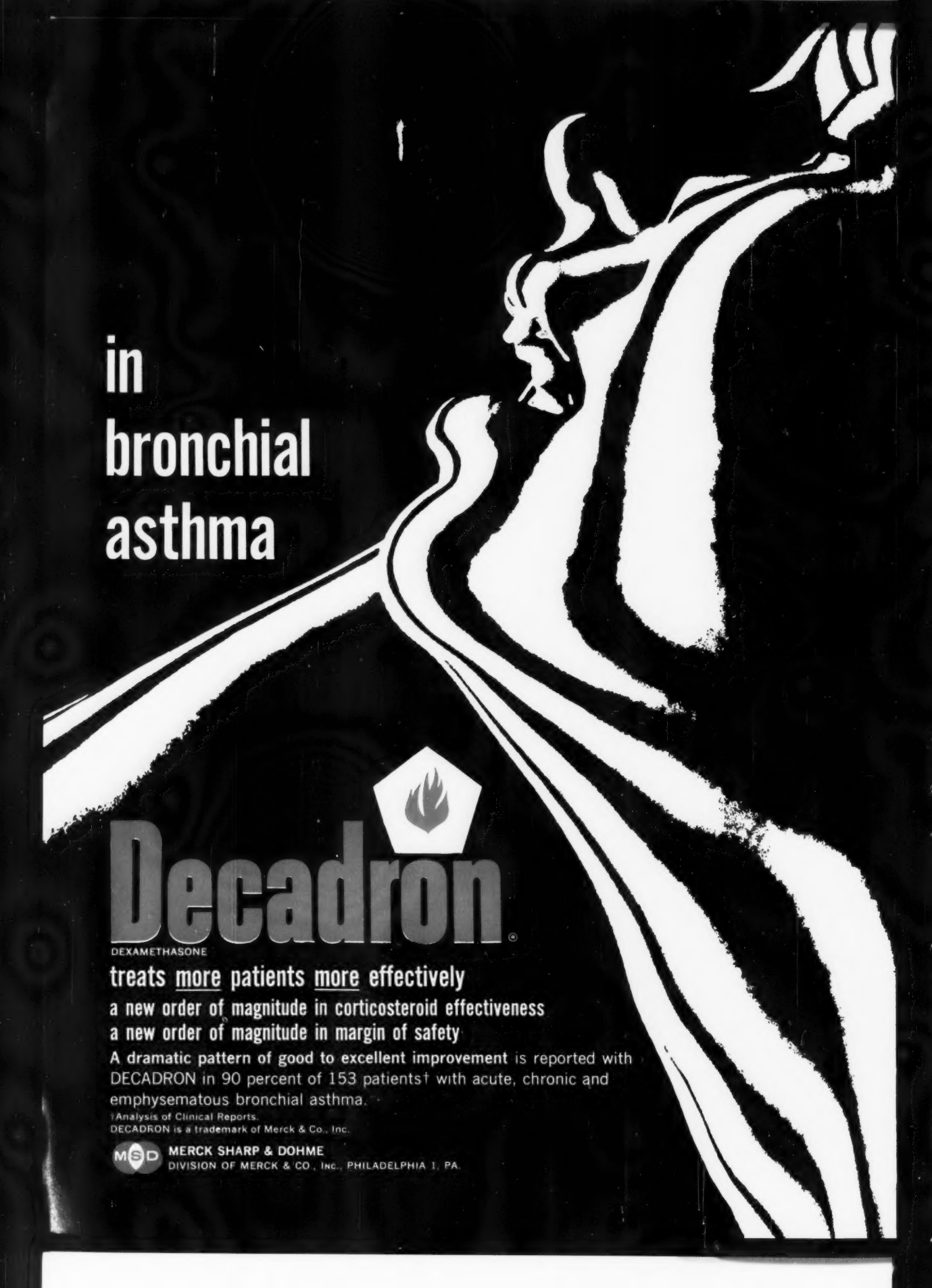
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of the Michigan State Medical Society

VOLUME 58 MAY, 1959 NUMBER 5

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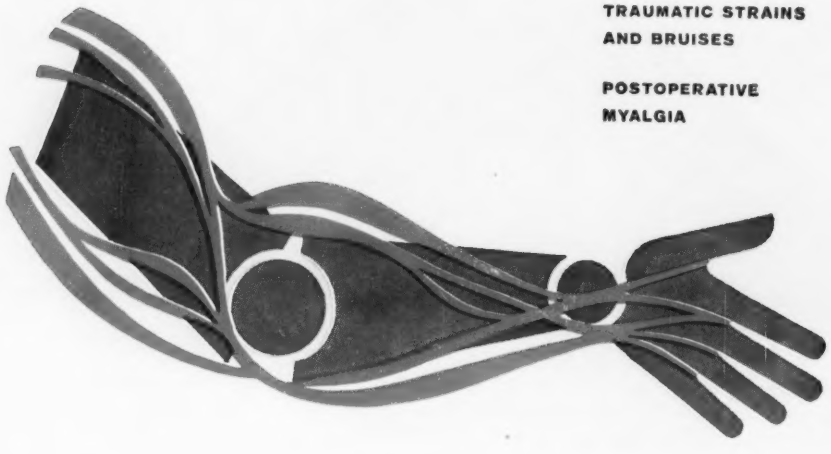

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J.A.M.A. 169:257 (January 17) 1959.

"It [triamcinolone] has an anti-inflammatory potency greater than an equal amount of prednisolone; i.e., comparable suppressive effects may usually be achieved with lower doses of triamcinolone than with prednisolone."

"Triamcinolone lacks the sodium-retaining and edema-producing effects of most other glucocorticoids. During the first several days of administration, it may cause a loss of sodium from the body; an initial mild diuretic action is frequently observed, whether the patient is frankly edematous or not. This is in contrast to the definite sodium-retaining and fluid-retaining properties of cortisone and hydrocortisone and to a much lesser extent with prednisone and prednisolone."

"Except in exceedingly large doses, triamcinolone apparently has no consistent effect on potassium excretion. Hence, neither sodium restriction nor potassium supplementation is ordinarily required during therapy with this agent."

"As with other glucocorticoids, the long-term administration of triamcinolone results in definite catabolic effects, as indicated by impairment of carbohydrate utilization and negative protein and calcium balance. This catabolic effect, coupled with a lack of appetite stimulation which is apparently peculiar to triamcinolone, may produce weight loss that might be undesirable in some patients treated for long periods of time."

"...the voracious appetite, with weight gain and euphoria, characteristic of other steroids, is not seen with administration of triamcinolone."

"Triamcinolone has been used for the management of a wide variety of clinical conditions usually considered amenable to systemic steroid therapy. These have included rheumatoid arthritis and other collagen diseases, allergic and dermatological disorders, certain leukemias and malignant lymphomas, the nephrotic syndrome, pulmonary emphysema and fibrosis, acute bursitis, rheumatic fever, and certain blood dyscrasias. Although clinical experience with the drug in some of the foregoing conditions is not extensive, the many similarities in action between triamcinolone and other potent glucocorticoids would indicate a usefulness for triamcinolone akin to that of other agents of this class."

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"There is some evidence that triamcinolone is more effective at a smaller dosage than are other steroids in controlling both the skin and joint lesions in psoriasis, whether or not complicated by arthropathy."

"Triamcinolone appears to compare favorably with other steroids for use in those situations in which edema and sodium retention have been complicating problems."

"It [triamcinolone] may also be the steroid of choice for patients in whom psychic stimulation, euphoria, voracious appetite, and weight gain should be avoided."

"...the drug [triamcinolone] does produce the other side effects and untoward reactions common to the glucocorticoids. At therapeutically equivalent doses, the frequency and severity of clinical manifestations of hyperadrenalism — rounding of the face, fat deposition, and hirsutism — are essentially the same. Likewise, there is little indication that the relative incidence of osteoporosis is materially decreased after the long-term use of the drug."

"Triamcinolone apparently does not cause the euphoria sometimes seen with other steroids, and the occurrence of mental depressions is uncommon."

"Current evidence suggests that the drug [triamcinolone] may not produce as high an incidence of peptic ulcer as do other steroids."

"Cutaneous erythema seems to be a side effect peculiar to triamcinolone."

"The usual contraindications and precautions of glucocorticoid therapy should be followed in the use of triamcinolone, keeping in mind that prolonged therapy with this drug will suppress the function of the patient's own adrenals by interfering with the pituitary-adrenal axis."

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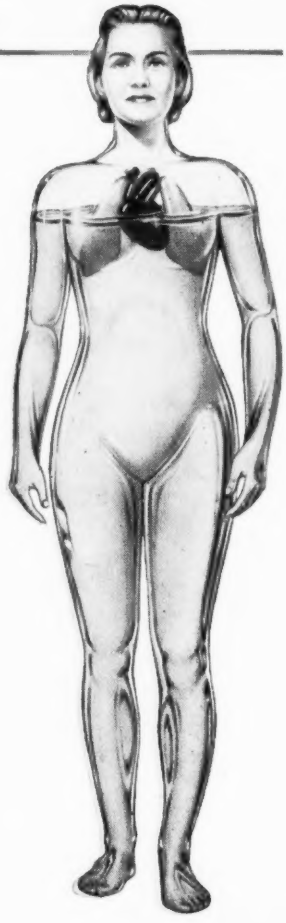

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- reduces dosage requirements for other antihypertensive agents, often with concomitant reduction in their distressing side effects
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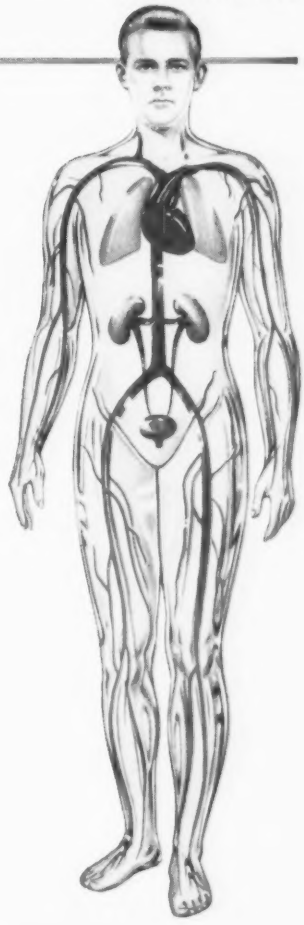

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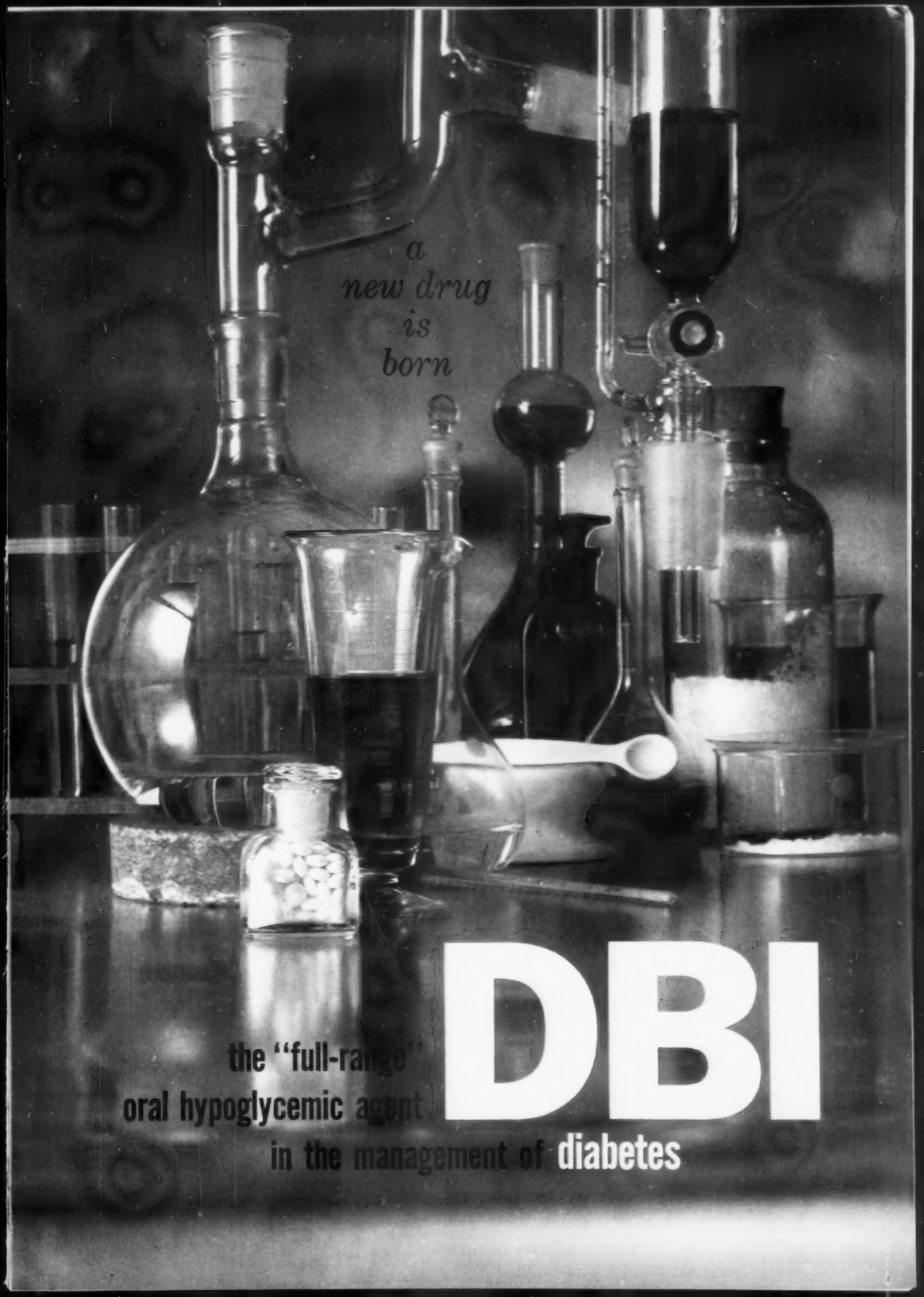
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DBI (N^1-β-phenethylbiguanide HCl) is an entirely new oral hypoglycemic compound, different in chemical structure, mode of action, and in spectrum of activity from the sulfonylureas. DBI is usually effective in low dosage range (50 to 150 mg. per day).

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supplied — DBI, 25 mg. scored, white tablets — bottle of 100.

IMPORTANT — before prescribing DBI the physician should be thoroughly familiar with general directions for its use, indications, dosage, possible side effects, precautions and contraindications, etc. Write for complete detailed literature.

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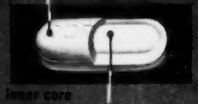
For those patients who complain

carries your patients through the middle of the night



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Dorsital* ..... 90 mg.
Warning: May be habit forming

Mephenesin ..... 425 mg.
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CAUTION: Federal law prohibits dispensing without prescription.

Dosage: One or two tablets ½ hour before retiring.

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timed-release action for a full night's sleep

NEBRALIN is designed to duplicate the normal sleep pattern. It encourages muscular relaxation and induces sustained, relaxed sleep by the release of Dorsital and mephenesin in a timed-release tablet. Rapid-acting mephenesin quickly relaxes skeletal muscles to overcome "fatigue-tension" and conditions the body for sleep. Dorsital provides CNS sedation to induce sound, relaxed sleep. The initial and sustaining dosages are designed to keep the amount of barbiturate to be inactivated at any one time at a low level tapering toward morning. Evidence indicates that mephenesin is capable of producing sleep,[1] and when combined with a barbiturate enhances barbiturate action.[2-4] Moreover, the integrated action of the two components permits smaller dosages of each,[1] assuring your patients refreshed awakenings without "morning hangover."

1 Schlesinger, E. B., Tr. New York Acad. Sc. 2:6, (Nov.) 1948.
2 Richards, R. K., and Taylor, J. D.: Anesthesiology 17:414, 1956.
3 Shideman, F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243, 1949.

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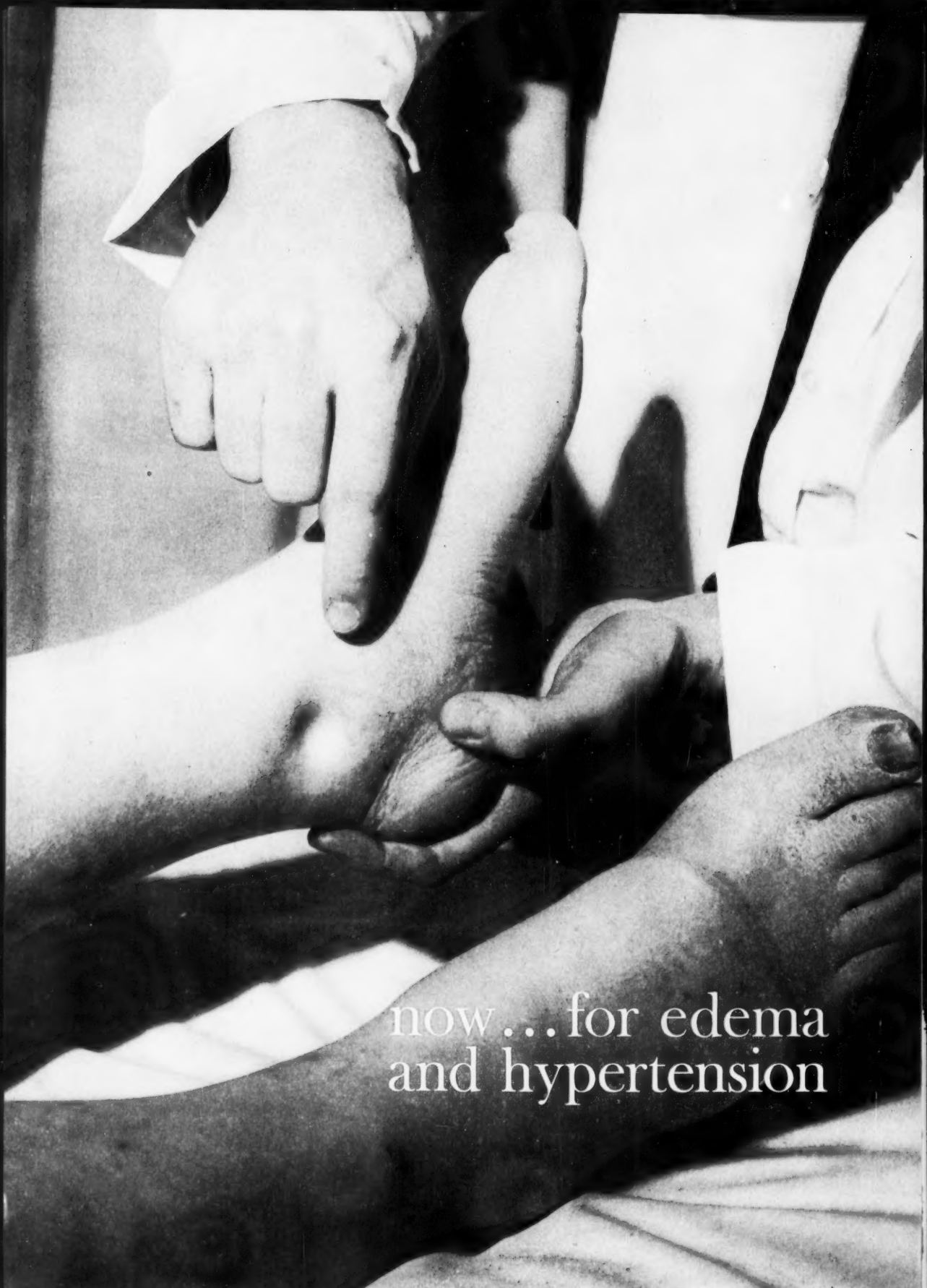
now...for edema
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See case history of this patient on following pages.

highest fluid yields, lowest blood-pressure levels yet achieved with oral diuretic-antihypertensive therapy...

Esidrix T.M.

(hydrochlorothiazide CIBA)

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4th day

Record of patient with congestive failure, treated at a leading Philadelphia hospital. Photos used with permission of the patient.

marked pitting edema (4+) cleared in 4 days with Esidrix

ESIDRIX IS 10 TO 15 TIMES MORE ACTIVE THAN CHLOROTHIAZIDE

INDICATED IN... congestive heart failure • hypertension • hypertensive vascular disease • premenstrual edema • toxemia of pregnancy • edema of pregnancy • steroid-induced edema • nephrosis • nephritis

DOSAGE: Esidrix is administered orally in an average dose of 75 to 100 mg. daily, with a range of 25 to 200 mg. A single dose may be given in the morning or tablets may be administered 2 or 3 times a day.

SUPPLIED:
Tablets, 25 mg. (pink, scored); bottles of 100 and 1000. *Tablets*, 50 mg. (yellow, scored); bottles of 100 and 1000.

CIBA
SUMMIT, N. J.

Say you saw it in the Journal of the Michigan State Medical Society

L.S., 81-year-old patient with complaint of painless hematuria admitted to hospital on 3/3/59. Past history included congestive heart failure of 15 years' duration. **Clinically significant symptoms:** expiratory wheezes over entire chest; bilateral coarse rales of both bases; slight abdominal distention (without evidence of ascites); palpable liver 2-3 fingerbreadths below rib cage; bilateral pitting edema (4+) of pretibial and ankle area. **Admission diagnosis:** hematuria of unknown origin; arteriosclerotic cardiovascular disease; poorly compensated heart failure; and chronic pulmonary fibrosis with pulmonary insufficiency.

Patient was put on regimen of bed rest, moderate salt restriction, digitalis and pulmonary decongestants. When ankle edema, hepatic congestion and rales failed to clear by 3/6, Esidrix 50 mg. b.i.d. was ordered. By 3/8 L.S. had lost 3 pounds. Rales decreased; there was 1+ pitting edema of ankle area only. He felt more comfortable, was able to enjoy reading newspapers and magazines in bed.

By 3/11, patient's weight had dropped 2 more pounds. Ankle edema and lung rales were gone. Patient tolerated cystoscopy and fulguration of a small bleeding polyp in his bladder on 3/12 very well. Ambulatory on the 4th day of Esidrix therapy, L.S. visited his neighbors down the hall, played checkers with another patient. On 3/14 he was discharged.

Patient L.S. Date	3/4	3/5	3/6	3/7	3/8	3/9	3/10	3/11	3/12	3/13
Urinary Output (ml.)	840	690	960	2140	1230	660	1220	1350	--	--
Weight (lbs.)	139	--	--	--	136	--	--	134	--	--
Esidrix Dosage (mg./day)	0	0	50	100	100	100	100	100	50	100

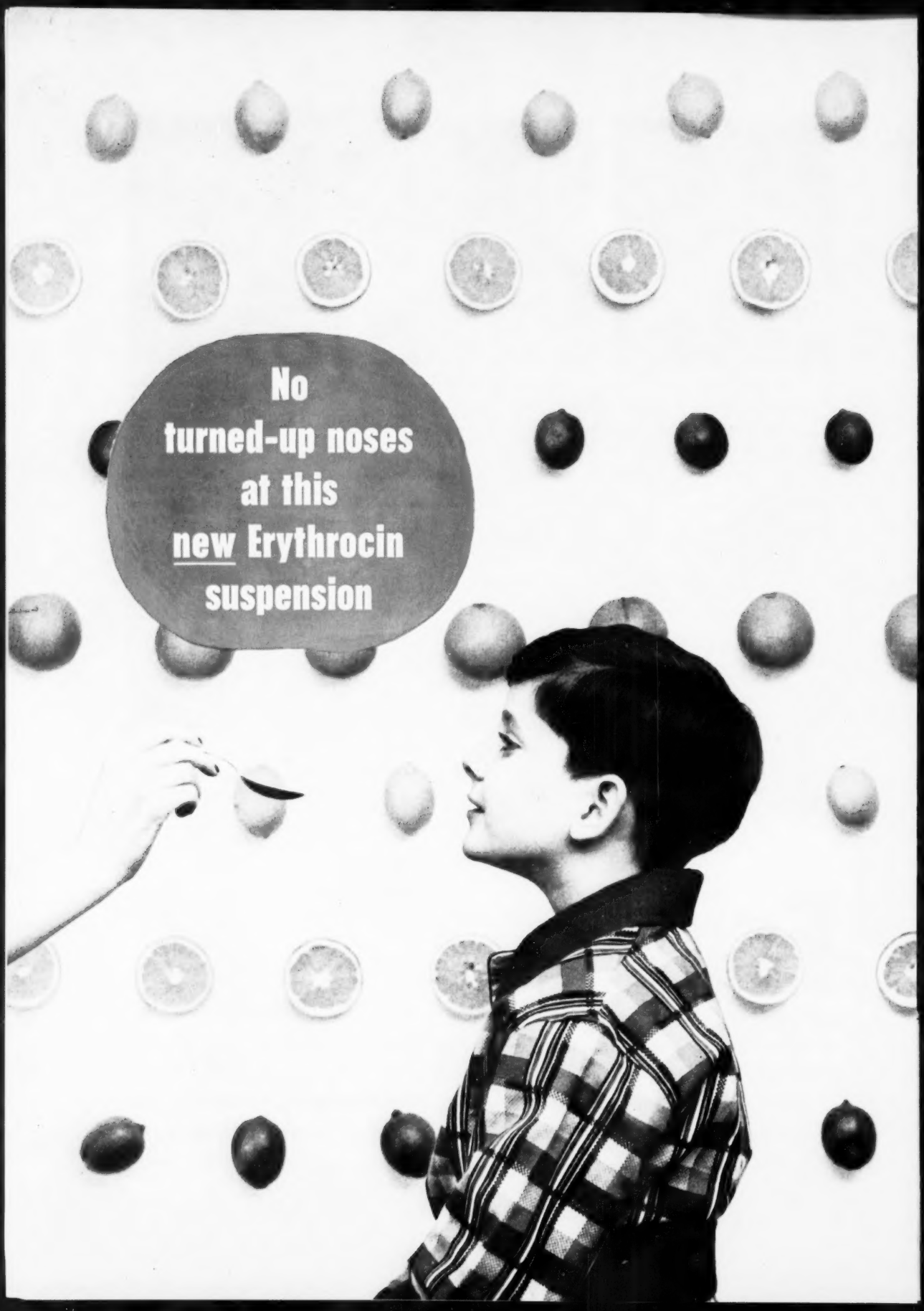
Esidrix T.M.

(hydrochlorothiazide CIBA)

- **relieves edema in many patients refractory to other diuretics[1]**
- **often produces greater weight loss than parenteral mercurials or chlorothiazide[2]**
- **provides a greater average reduction in blood pressure than chlorothiazide[3]**
- **is exceptionally safe . . . reduces the likelihood of electrolyte imbalance**

1. Brest, A. N., and Likoff, W.: Am. J. Cardiol. 3:144 (Feb.) 1959. 2. Clark, G. M.: Clinical report to CIBA.
3. Dennis, E. W.: Clinical report to CIBA.

2/2684MK-2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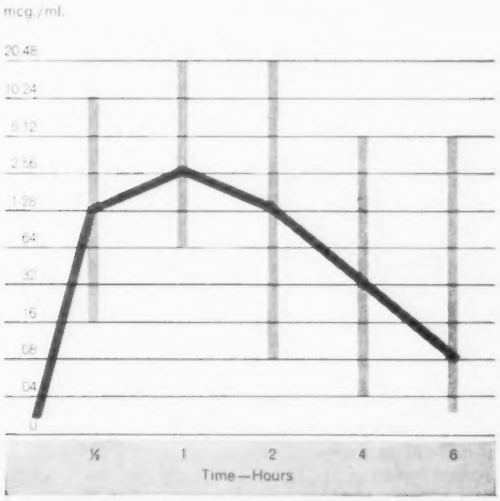
Never an antibiotic better proved against everyday coccal infections. After millions of prescriptions, an unparalleled safety record.

High, peak blood levels within one hour—plus nearly 100% effectiveness against coccal infections. And, unlike broad-spectrum antibiotics, ERYTHROCIN is classed as a bactericidal agent.

Indications: Against staph-, strep- and pneumococci. Especially useful when patients are allergic to penicillin or other antibiotics. **Dosage:** For children, 30 mg./Kg. per day. Adults, 1 to 2 Gm., depending on severity of infection. **Supplied:** In 60-cc., pour-lip bottles. Each 5-cc. teaspoonful represents 200 mg. of Erythrocin. Abbott

If you're concerned with blood levels . . .
Range of blood levels obtained from one dose of 400 mg. ERYTHROCIN SUSPENSION. Medication was administered to 30 volunteer adults, and represents a dosage of approximately 6 mg./Kg. Bars show ranges —continuous line indicates medians.



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It Can Be Done!

LOUIS M. ORR, M.D.
President-Elect, American Medical Association
Orlando, Florida

The recent visit of Soviet First Deputy Premier Mikoyan to this country and Mr. Khrushchev's announcement that the Russians will turn over all authority in their Zone of Germany to the East German regime in May once again have called America's attention to the city of Berlin—no, to the two cities of Berlin, East and West.

You and I know a great deal about these twin cities even though some of us may never have been there. One is a bleak metropolis. Life is drab and depressing. Enthusiasm and vigor are gone, and the people plod along without hope that economic, social and political matters will get any better—notwithstanding Khrushchev's plan to relinquish direct Kremlin controls.

Run by a Soviet puppet government *for* the Kremlin, East Berlin is the No. 1 example of a government-managed economy and political dictatorship.

In contrast, West Berlin is "a monument to bursting capitalism," in the words of newspaper columnist William S. White, "It is a place of food and warmth and life and even luxury."

Its free society, competitive-enterprise economy and democratic government have made it so.

In reciting these facts, and they are facts, I have no intention of delivering a lecture on foreign policy. Nor do I offer a solution to the complex German problem.

But I do believe that this contrasting picture of the two cities is quite similar to the two stories of medicine in the world today.

One is the tale of government-managed medicine and medical dictatorship by bureaucratic rule. The other is the account of medicine in a competitive free-enterprise economy where medical practice is run to please patients, not government personnel.

Like East and West Berlin, government medicine and private practice medicine are on open exhibit in our world today. Just as West Berlin is a radiant contrast to East Berlin, so private practice medicine is a radiant contrast to government-controlled medicine.

Just as the Kremlin now seeks to close off the free society of West Berlin, there are those who hope to end the private practice of medicine in this country through legislation which would place the control in the hands of big government or non-medical agencies.

Ironically, even in West Germany we see how badly medical conditions can get in a free society that adopts a government system of medicine. Last month the news magazine *Der Spiegel* revealed that the system is in serious trouble with ballooning costs, physician protests and revolts, and general dissatisfaction.

The present course of government medicine in West Germany is thus no different than in other countries where it has been tried.

The conclusion once again is obvious: Politics and medicine are no more compatible than water and oil; they simply won't mix.

But naive indeed is the person who thinks that all United States legislators have learned lessons from the past or the present about trying to mix politics and medicine. Past defeat on health schemes and current bungling by government medicine around the world apparently have made, and will make little or no impression on those determined to do-something-for-someone and damn-the-cost-or-the-consequences.

This is especially true in election years. Although 1959 is not an election year 1960 is, and we can be sure that the proponents of government medicine will spend the next eleven months in tooling-up and laying the groundwork for the big push next year. We may expect those who support the idea of placing the government into the medical care field to rally their forces, collect data, survey the problem and gather favorable testimonials.

The Forand Bill

Specifically, as you perhaps know, the legislative health measure to receive all this attention is—and will be—an expansion of Social Security to include hospital and perhaps medical benefits to all Social Security beneficiaries. Although the proposal died last year in the 85th Congress, it is due to emerge again in the 86th Congress at any hour. Its form undoubtedly will not be the same as the 85th Congress, for there will no doubt be a variety of limitations on benefits and age of eligibility.

These changes will be designed primarily to make the bill more attractive from the standpoint of *economy, freedom of choice* and perhaps *free enterprise.*

Backers of the measure thus hope to eliminate or minimize many of the strong arguments against the bill. They would like many outspoken opponents of the original Forand Bill to say: "Well, this new proposal isn't so bad." Or, "It's not so expensive." Or, "It's acceptable now."

(Continued on Page 699)

To the relief of musculoskeletal pain, new MEDAPRIN* adds restoration of function

Analgesics offer temporary relief of musculoskeletal pain, but they merely *mask* pain rather than getting at its *cause*. New Medaprin, in addition to bringing about prompt subjective improvement, promotes the *restoration of normal function* by suppressing the inflammation that *causes* the pain.

Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol,** the corticosteroid with *the best therapeutic ratio in the steroid field*.† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

Indications: Medaprin is indicated in mild-to-moderate rheumatic and musculoskeletal conditions, including rheumatoid arthritis, deltoid bursitis, low back pain, neuralgia, synovitis, fibromyositis, osteoarthritis, low back sprain, traumatic wrist, sciatica, and "tennis elbow."

Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

- 300 mg. acetylsalicylic acid, for prompt relief of pain
- 1 mg. Medrol, to suppress the causative inflammation
- 200 mg. calcium carbonate, as buffer

*TRADEMARK **TRADEMARK, REG. U. S. PAT. OFF. — METHYLPREDNISOLONE, UPJOHN
†RATIO OF DESIRED EFFECTS TO UNDESIRED EFFECTS

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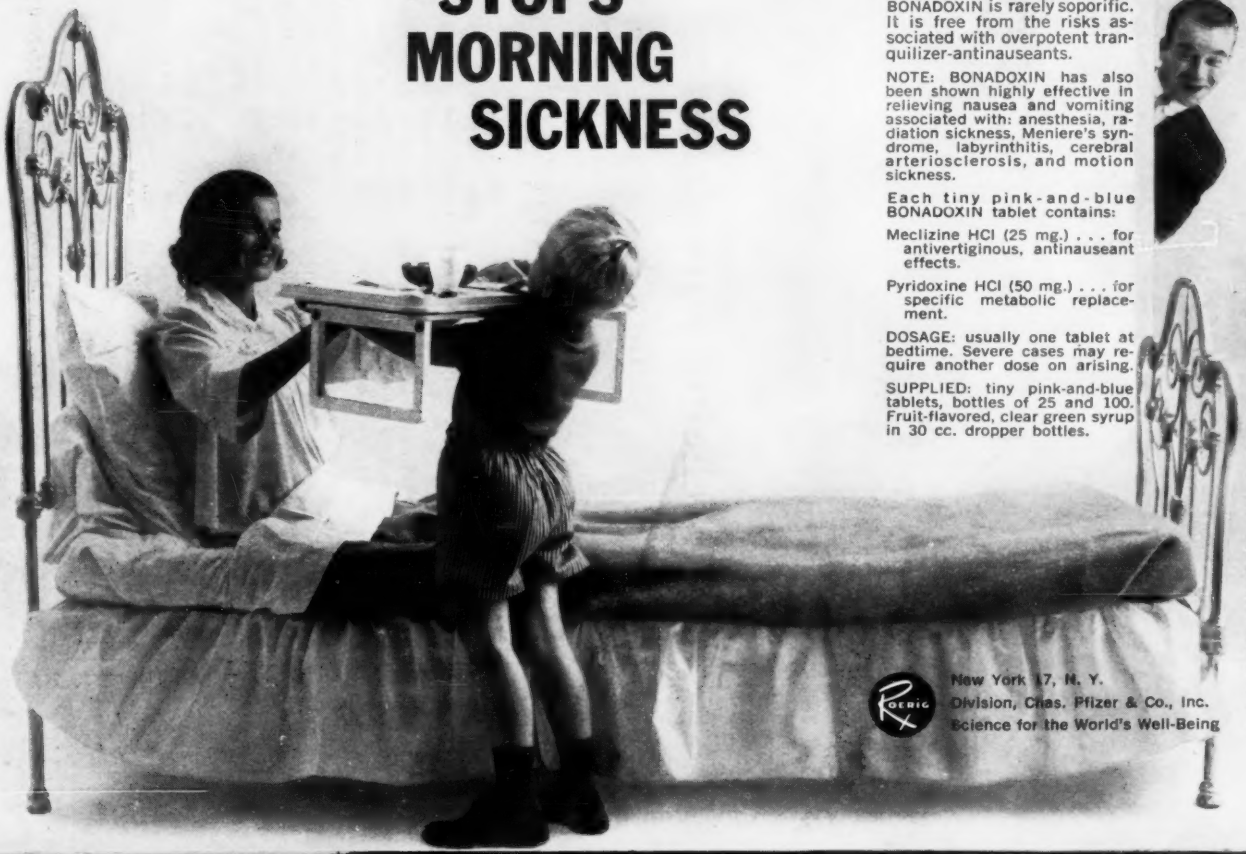
STOPS STOPS STOPS MORNING SICKNESS



BONADOXIN Tablets relieve nausea and vomiting of pregnancy in 9 out of 10,[1-7] often within a few hours.

Moreover, a controlled study of 620 cases reported that with BONADOXIN "toxicity and intolerance [are] zero."[1] BONADOXIN is rarely soporific. It is free from the risks associated with overpotent tranquilizer-antinauseants.

NOTE: BONADOXIN has also been shown highly effective in relieving nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis, and motion sickness.

Each tiny pink-and-blue BONADOXIN tablet contains:

Meclizine HCl (25 mg.) . . . for antivertiginous, antinauseant effects.

Pyridoxine HCl (50 mg.) . . . for specific metabolic replacement.

DOSAGE: usually one tablet at bedtime. Severe cases may require another dose on arising.

SUPPLIED: tiny pink-and-blue tablets, bottles of 25 and 100. Fruit-flavored, clear green syrup in 30 cc. dropper bottles.

Infant colic? BONADOXIN DROPS are antispasmodic . . . stop colic in 84%,[8-10] without the risk of belladonna and barbiturates.

Each cc. contains:
Meclizine dihydrochloride . . 8.33 mg.
Pyridoxine hydrochloride . . . 16.67 mg.

Dosage:

under 6 months . . . . 0.5 cc.	2 or 3 times daily, on the tongue, in fruit juice or water
6 months to 2 years . . . . 1.5 to 2 cc.	
2 to 6 years . . 3 cc.	
adults and children over 6 . . . . . 1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.

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Science for the World's Well-Being

(Continued from Page 696)

Making the measure more attractive and acceptable is not the only effort to push and promote Forand-type legislation. Just a week ago a new Senate subcommittee of the Labor and Public Welfare Committee was authorized to conduct a broad, year-long study of problems of the aged and aging.

Established at the request of Sen. Pat McNamara and subsequently headed by the Michigan Democrat, the subcommittee apparently will be out to assess the feeling of the public on the proposed entrance of the federal government into the medical care field. This, of course, will not be one of the avowed purposes, but the intentions of the subcommittee chairman are not subtle at all, for he says that the group will seek "the exact nature of the problems, the role of the federal government in the field, the ability of existing public and private agencies to provide solutions, and recommendations at a later date of specific legislation."

Certainly by now the dangers of such legislation should be apparent. Here briefly and quickly are some of them:

—For the first time in history legislation of the Forand-type would add health benefits to a Social Security program that now pays cash benefits based on the "floor-of-protection" concept. This new principle would completely alter the nature of the program, and would open the door for evolution of a system of tax-paid health care for the entire nation. Indeed, it would establish the principle that provision of medical care for any segment of the population, or all of it, is a federal function.

—The cost would be exorbitant. So-called "free" hospital care and medical and surgical care for millions of senior citizens would necessitate raising the Social rates for all, regardless of need, religious scruples or desires. And the first raise would be only the beginning.

Commenting on the whole Social Security problem recently, the Wall Street Journal stated editorially that "the boost in Social Security taxes on January 1 from $94.50 to $120 (maximum) is just a hint of what is to come. By 1969 the tax will be up to $216, an increase of 80 per cent in the next ten years. The original law in 1937, incidentally, called for a maximum tax of $30. The government, it would seem believes that by 1969 the cost of living will have risen more than seven times what it was in 1937."

This experience with our own Social Security system, plus the revealing stories of government medicine in European nations, is evidence enough that the initial tax for so-called "free" medical care will be just a drop in the bucket compared to what will be required in ten or twenty years.

—This type of legislation represents the "shot-in-the dark" method of lawmaking which might nick one small part of an unseen target. Moreover, it violates the very basic approach to meeting the problems of the aging as outlined by President Eisenhower when he said that we must "place maximum emphasis on individual freedom and responsibility and to foster maximum use of existing programs and agencies."

There are other dangers, of course, and I am sure you can each name at least a half dozen more.

In meeting the health needs of our older citizens medicine has done a fair job in the past. It currently is doing a better job, and it is preparing to set in motion a positive program for older citizens that will take into consideration all the facets of the aged and aging problem. Here we include not only the health and physical needs but the social, economic, occupational and psychological requirements. And I need not remind you that no huge federal spending will solve these special considerations.

Needless to say, medicine needs the help of every member of the health team in this country if it is to suceed in a two-fold campaign to (1) provide leadership and imagination for a multi-phased approach to health care of the aged and (2) to defeat an unsound bill in Congress which would put an important segment of the senior citizen entirely under a bureaucratic system.

I am gratified that Blue Shield has been one of the first to pledge its all-out cooperation in working with the medical profession to do an effective job in providing medical care for the aged, especially the lower income groups.

As you may know, the AMA House of Delegates two months ago approved by unanimous action a proposal calling for physicians to provide medical services at adjusted rates to persons over sixty-five years of age with reduced incomes and modest resources.

Physicians have been urged to accept a level of compensation that will permit the development of insurance and prepayment plans at a reduced premium. Again Blue Shield has expressed and demonstrated its desire to work with physicians now to bring this about immediately so that more senior citizens can be covered and protected.

I could recite to you eight or ten other constructive actions taken by the AMA—separately or jointly with allied medical groups—that will help bring about sound, positive solutions to various problems of our senior citizens. These include the establishing of a Joint Council to Improve the Health Care of the Aged . . . setting forth a basic six-point program designed to provide the best for the aged and the aging . . . blueprinting for state and county societies suggested guides for action in the aging field . . . promoting and establishing high standards of nursing home care . . . and supporting changes in laws to stimulate the construction of more nursing homes and chronic illness facilities.

Likewise, Blue Shield has been consistently aware of the need to plan and to act more and

more in the field of aging and the aged. Your achievements are equally as impressive in the field.

You have developed a model contract for insurance for persons over sixty-five in following the recommendations of the AMA resolution on behalf of a reduced premium rate prepayment plan.

You have sought an increase in the number of Blue Shield plans with no age limitation on non-group enrollment and the number with coverage especially designed for older persons.

You are developing patterns of benefits considered to be basic coverage especially for older citizens.

These efforts plus many, many more by Blue Shield, Blue Cross and private insurers assure us in the medical profession that voluntary enterprise can do the best job of financing the cost of illness for senior citizens.

That we all have done much no one can question. That we all are capable of even more no one can deny. That we will go on to complete the task with speed and soundness I have no doubt.

Already more than 40 per cent of the persons over sixty-five are covered by voluntary health insurance. And this coverage has been attained largely in the past five or six years.

Thus, rapid progress is being made *without* the direct help of government.

Despite all this, a word of warning is necessary. Let's not live on past accomplishments. Let's not have America's health team become a mutual-admiration society in which each member periodically lauds the other fellow for his plans, his surveys, and his continuing studies of the aged problems.

Our individual jobs are *to think* and *to create, to develop* programs and then to put our sound ideas into *action*.

In addition, let's offer suggestions to each other. Let's be critical if necessary, not with the thought of splitting the health team but of strengthening it and making the best use of our combined talents.

For example, the AMA Committee on Insurance and Prepayment Plans agrees in general with Blue Shield's special program for medical care coverage for the aged. However, it suggests that a major effort must be made to provide an alternative to hospitalization.

This alternative might well be a specified number of office and home calls per year, which would permit calls to nursing homes as an alternative to hospitalization.

This suggestion has been made because the future of medicine and voluntary enterprise may well be determined largely by the extent to which Blue Shield and other voluntary financing mechanisms expand their coverage of the older citizen.

Yes, medicine is determined to work programs of all types. And here I also include construction of additional nursing homes, convalescent wings in hospitals, higher standards for non-hospital institutions, and experimentation with progressive hospital care.

Medicine is equally determined to fight proposals for compulsory health insurance in any form. No issue will arouse the vast majority of physicians as will proposals for nationalized medicine, in toto or by piecemeal.

American medicine holds that the principles under which voluntary prepayment plans, independent hospitals and private practice of medicine operate are *too important, too valuable* to throw away. On the contrary, we believe that *every* avenue should be exhausted in defense of the inherent freedoms on which they are based.

The AMA's executive vice president, Dr. "Bing" Blasingame, in an address to hospital administrators only last week, called upon all members of the health team to meet the challenge of government medicine for the aged. He said:

"When we turn to the federal government in this area, we are running away from the problem. Instead of running, we should recapture the pioneering spirit, the willingness to assume risks ourselves, which was the foundation on which Blue Cross and Blue Shield were built.

"When Blue Cross and Blue Shield began, many said, 'It can't be done.' But we refused to accept these predictions. The results, in which you played such a magnificent role, are history.

"We must join together in a similar crusade today. This crusade calls for a re-examination of techniques for financing hospital and medical service, for thorough study of ways in which costs of adequate care for our older citizens may be lowered, for promotion of programs which will reduce demands on hospitals and other medical facilities, and for a wide variety of other positive activities which get to the heart of the patient's needs."

Again the proponents of social medicine are saying "it can't be done." They are being joined by persons who should know better. In fact, recently a well-known economic news analyst stated that there is no practical substitute for federally financed health insurance for old people.

Let's not yield to any such cult of inevitability and defeatism.

Not long ago President Eisenhower wisely summed up the Far Eastern situation and his remarks are appropriate for us as we face the government medicine problem once again.

"Shall we," he said, "take the position that, submitting to threat, it is better to surrender a piece of free territory in the hope that this will satisfy the appetite of the aggressor and we shall have peace?

"Do we not still remember that the name of 'Munich' symbolizes a vain hope of appeasing dictators?

(Continued on Page 718)

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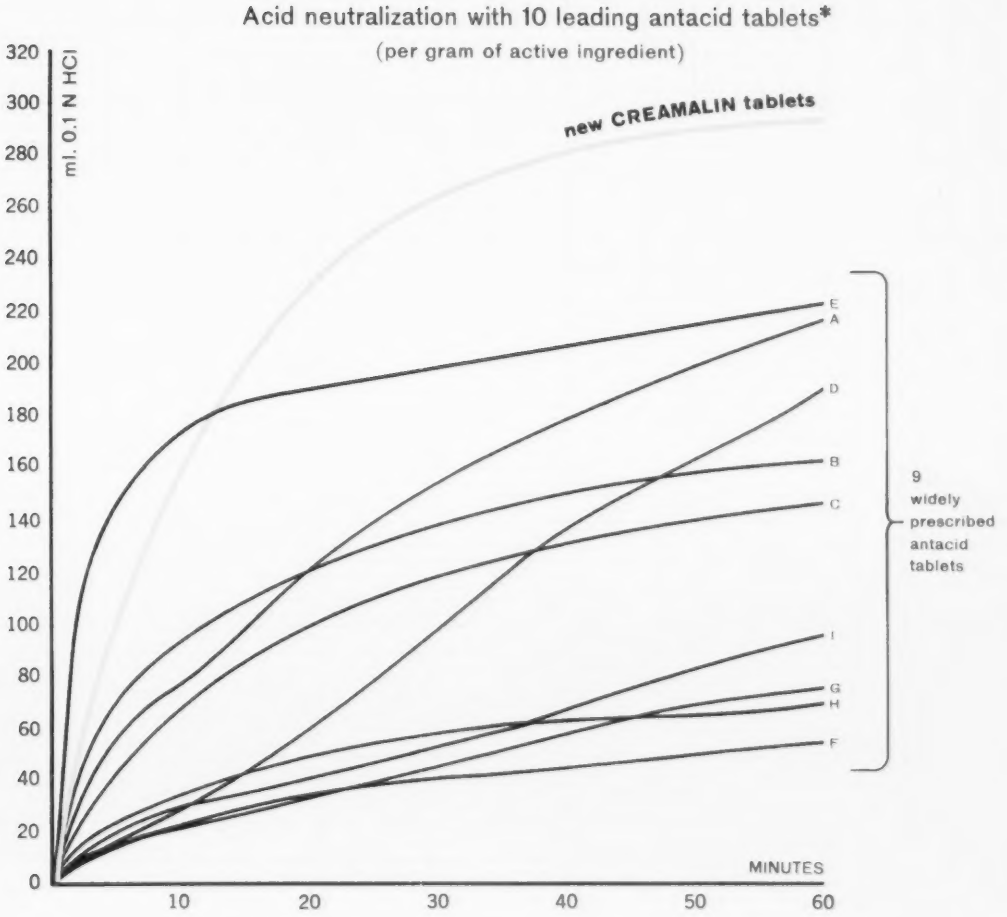
Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short polymer dried aluminum hydroxide gel, stabilized with hexitol, with 75 mg. magnesium hydroxide.

1. *Neutralizes acid faster (quicker relief)*
2. *Neutralizes more acid (greater relief)*
3. *Neutralizes acid longer (more lasting relief)*
4. *No constipation · No acid rebound*
5. *More pleasant to take*

CREAMALIN NEUTRALIZES MORE ACID FASTER

Quicker Relief · Greater Relief

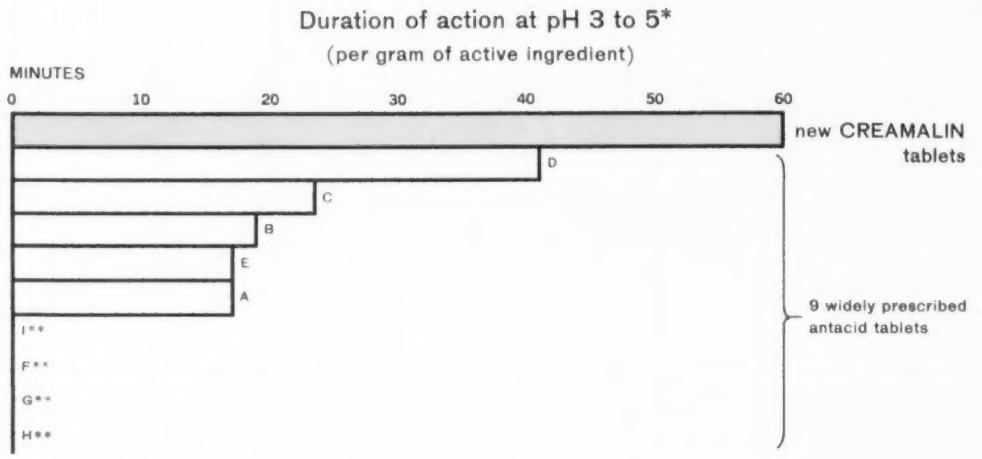


Tablets were powdered and suspended in distilled water in a constant temperature container (37°C) equipped with mechanical stirrer and pH electrodes. Hydrochloric acid was added as needed to maintain the pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.

CREAMALIN NEUTRALIZES MORE ACID LONGER

More Lasting Relief

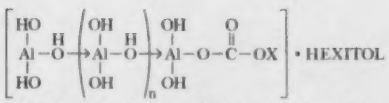


*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.
**pH stayed below 3.

No chalky taste. New CREAMALIN tablets are not chalky, gritty, rough or dry. They are highy palatable, soft, smooth, easy to chew, mint flavored.

NEW

CREAMALIN ANTACID TABLETS



n is at least 1 and averages less than 6. X is a cation.

• NO ACID REBOUND • NO CONSTIPATION • NO SYSTEMIC EFFECT

Composition: Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short polymer dried aluminum hydroxide gel, stabilized with hexitol, with 75 mg. magnesium hydroxide.

Adult Dosage: Gastric hyperacidity — 2 to 4 tablets as necessary. Peptic ulcer or gastritis — 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed with water or milk, or allowed to dissolve in the mouth.

Supplied: Bottles of 50, 100, 200 and 1000.

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Complete food, Mead Johnson

powder

When you prescribe Sustagen during convalescence, you help fulfill the critical needs of your patients for increased amounts of calories, protein and vitamins. "In some instances of acute illnesses, injury, or surgery, intensive nutritional therapy may be the deciding factor in the outcome."[1] Sustagen, because it generously supplies all known essential nutrients in convenient concentrated form, helps speed recovery.

Mead Johnson
Symbol of service in medicine

[1]Halpern, S. L.: Ann. New York Acad. Sc. 63: 147-164 (Oct. 28) 1955.

SU-159M

You and Your Business

TAX COURT RULING

A Doctor of Medicine, an internist from Worthington, Ohio, underwent psychoanalysis and studied psychiatric techniques so that he might be a better practitioner of internal medicine. In 1954-55, training and travel expenses approximated $9,000, which he deducted as a business outlay. This was disallowed by the Commissioner of Internal Revenue. Dr. Watson appealed to Tax Court.

Before the Tax Court, the Commissioner held that it is not "customary" for a doctor to spend money for analysis and psychiatric training, therefore Dr. Watson's expenditure did not qualify as an ordinary and necessary expense for tax purposes. But this did not impress court, which said in part:

"It is in the realm of common knowledge that many physicians ordinarily continue to enlarge their medical education after their fundamental training has been completed and they have embarked on their practice. . . . He (Dr. Watson) took the course, not for the purpose of becoming a specialist as a psychiatrist, but for the purpose of better carrying on his own practice. . . . We hold the claimed deductions should be allowed." And that, it might be added, is final.—WRMS.

PUBLIC WELFARE MEDICAL RELIEF

How can six million Americans obtain adequate medical care, and pay for it, when they already depend on public welfare for the essentials of food, clothing and shelter? This is a question of growing importance for social agencies and taxpayers in general.

An answer may lie in more than 20,000 individual records now being studied at The University of Michigan School of Public Health.

Over the past seventeen months, field workers collected the data from welfare departments in Connecticut, Illinois, Maryland and Rhode Island. They hope to gain information from this sample that will apply to the nation as a whole.

Nationwide, there are an estimated six million persons on public relief rolls.

Solomon J. Axelrod, M.D., professor of public health economics, University of Michigan, said, "The problem of providing medical care for these people is immensely complex. Many of them were forced onto relief in the first place because they were sick."

Dr. Axelrod is principal investigator in the project which is supported by the American Public Welfare Association.

The University of Michigan researchers are concentrating at present on the amount and kind of medical care received by persons drawing Old Age Assistance (OAA).

"We're starting here," Axelrod reported, "because of the increasing number of older people in our population, and because the cost of their medical care uses an increasing share of the tax dollar spent for relief.

"We already know that Social Security payments in many cases do not provide enough money for medical attention. More and more of the aged are depending on OAA for medical care, even while drawing Social Security.

"Secondly, we wish to clarify some of the administrative problems said to exist. It appears, for example, that more money in the OAA medical care program is spent on prescribed drugs than for physicians' services.

"Another administrative problem is that of providing adequate care for long-term illnesses. Often our older people undergo long periods of hospitalization for social—rather than medical—reasons: they simply have no other place to stay."

The research project was launched at The University of Michigan in September, 1957. Last month, the American Public Welfare Association gave the researchers an additional grant of $27,903 to support detailed analysis of the information gathered so far.

Preliminary findings on this phase of the project are expected to be ready in July of this year.

SPEEDING MEDICAL COMMUNICATIONS

The W. K. Kellogg Foundation of Battle Creek has made a donation for research to expedite a quicker translation of Medical Research findings into improved medical practice. A five-year commitment is made to the Association of American Medical Colleges of $500,000 which is to be used for comprehensive studies of the administration, financial structure, curricula, research and medical services of the nation's 86 medical schools. Such studies are essential to the improved preparation of physicians—the key to shortening the time-lag between the discovery and application of knowledge to the people's health problems.

Subsidies for the great surge of medical research have increased tremendously in recent years, but comparatively little support has been tendered to medical education which has the major responsibility for improvement of the whole health service problem. In between the increasing effectiveness of medicine and the public's enlarged demand for medical care are the institutions concerned with the training of health personnel. Now the grant of a half million dollars will enable the Association of American Medical Colleges further

(Continued on Page 708)

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NONSTOP RELIEF FROM NEW YORK TO ISTANBUL

When you prescribe medication in convenient REPETAB form, one REPETAB taken just before his jet flight leaves New York's Idlewild Airport will give your patient the benefits of the first full dose almost as swiftly as his plane soars up and out over the Atlantic. He'll enjoy a single, sustained high therapeutic level for up to 12 hours as his modern plane carries him smoothly over the 5,009 miles. And he can relax until he settles down to shish kebab at Pandeli's 12 hours later....That 12-hour flight to Istanbul is just over the horizon. Modern, dependable REPETABS are here now!

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S-111

SPEEDING MEDICAL COMMUNICATIONS

(Continued from Page 706)

to develop its services to member schools and other health agencies.

The Association's services of the past have focused upon more effective recruitment of able students, curriculum experimentation, improvement of teaching methods, continuing education for physicians, and maintaining communication between medical educators, other health personnel and the American public.

There is a growing belief that health and medical care, as concerns of society, are fast approaching a par with food, clothing and shelter. And, as a result of this concern, health as a public activity is perhaps among the top five "business enterprises" of our nation.

The study will concern itself with problems of establishing new medical schools; the inadequacy of existing faculties and exploration of future needs; supply of students for the medical schools; keeping up with new research which continues to open new knowledge channels. The "Bayne-Jones Report," an advisory study prepared at the request of the Secretary of the Federal Department of Health, Education and Welfare, recommends tripling present expenditures for medical research, to reach perhaps one billion dollars by 1970 . . . an increase in the number of medical researchers from 20,000 to 45,000 by 1970 . . . that the ratio of physicians should not be permitted to fall below the present 132 for each 100,000 persons in the population . . . that this ratio be maintained by the building of some fourteen to twenty new medical schools by 1970 at a cost of between $500,000,000 and $1,000,000,000 (one-half this cost to be provided by the Federal Government and the balance by industry and private philanthropy) . . . that a great deal more money be provided by the Federal Government for the expansion of existing medical schools.

A report of a Committee of Consultants on Medical Education to the Surgeon General of the U. S. Public Health Service, due in July, 1959, is expected to bring forth strong recommendations for expanded and improved medical education. The studies financed by the Foundation should provide guidelinks for these expansions and improvements. However, the task will be no simple one.

MULTIPLE SCLEROSIS RESEARCH

A consulting and diagnostic service for multiple sclerosis patients has been established at Wayne State University College of Medicine, according to John S. Meyer, M.D., professor and chairman of the department of neurology.

The service is sponsored by a $20,000 grant from the Michigan Chapter of the National Multiple Sclerosis Society, a United Fund-Torch Drive Agency.

John T. McHenry, M.D., associate professor of neurology and director of the new Multiple Sclerosis Clinic said, "Under the terms of the Society's affiliation, the Department of Neurology will provide neurological supervision and clinical evaluations for the referring physician. The ultimate responsibility for patient care rests with the family physician and it is he who should initiate those community resources available and medically approved."

Research projects into the cause of multiple sclerosis, a disease of the central nervous system, will also be conducted by the Department of Neurology.

Physical therapy and related treatments will be administered at the Rehabilitation Institute of Metropolitan Detroit and other community rehabilitation agencies.

Detroit patients will be seen Thursday mornings at Receiving Hospital. Wayne county and others from out-state will be seen at Detroit Memorial Hospital on Tuesday afternoons. Patients will be seen only on referral of their physician.

Abraham Brickner, executive director, of the Michigan Chapter, National Multiple Sclerosis Society said an estimated 250,000 young adults between the ages of twenty to forty have this affliction. There are 20,200 in Michigan, he said.

Multiple Sclerosis branch chapters and evaluation centers are located in Battle Creek, Grand Rapids, Lansing and Marquette.

YOUR ADVICE NEEDED FOR 1960 WHITE HOUSE CONFERENCE ON CHILDREN

Recommendations about health and children which might reach the 1960 White House Conference on Children and Youth will be formulated this spring on the local level. All the recommendations for the national conference will have their inception at the many regional meetings this year across the nation.

The eleven Michigan regional meetings, which eagerly seek the participation of leaders from the medical profession and other fields, are directed by the Michigan Youth Commission.

County chairmen and committees are conducting studies to look into the changing conditions under which children are growing up and to determine the most pressing problems. These findings will provide the basis for the one-day regional meetings. The regional recommendations then will become the basis for the state report used by the Michigan delegates to the Washington Conference and for possible state follow-up planning and action.

The national conference, held each decade, has been called by President Eisenhower for March 27-April 1, 1960. President Eisenhower has declared that "the purpose of the 1960 White House Conference is to promote opportunities for children

(Continued on Page 710)

. . . and one to grow on

A tiny tablet of REDISOL to stimulate the appetite – to help in the intake of food for growth.

REDISOL is crystalline vitamin B_{12}, an essential vitamin for growth and the fundamental metabolic processes.

Ideal for the growing child, the REDISOL tablet dissolves instantly on contact in the mouth, on food or in liquids.

Packaged in bottles hermetically sealed to keep the moisture out and to retain vitamin potency in 25 and 50 mcg. strengths, bottles of 36 and 100 – in 100 mcg. strength, bottles of 36, and in 250 mcg. strength, vials of 12.

Also available as a pleasant-tasting cherry-flavored elixir (5 mcg. per 5-cc. teaspoonful) and as REDISOL injectable, cyanocobalamin injection USP (30 and 100 mcg. per cc., 10-cc. vials and 1000 mcg. per cc. in 1, 5 and 10-cc. vials).

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YOUR ADVICE NEEDED FOR 1960 WHITE HOUSE CONFERENCE FOR CHILDREN

(Continued from Page 708)

and youth to realize their full potential for a creative life in freedom and dignity."

Medicine's voice in this national movement is most important—and can be heard only through active participation at the eleven regional conferences in Michigan.

HIGHLIGHTS OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

Meeting of March 9, 1959

- **Report on AMA Commission on Medical Care Plan** (see JAMA, special edition of January 17, 1959).—J. S. DeTar, M.D., Milan, Chairman of the MSMS Ad Hoc Committee presented report and recommendations. The Executive Committee instructed that the Ad Hoc Committee report be published in an MSMS Secretary's Letter with the request that reactions, if any, of component county societies be given by them to MSMS before April 1 so that the Executive Committee of The Council, meeting on that date, may take appropriate action based on the wishes of the component societies. Doctor DeTar was thanked for his excellent report.
- **Medicare.**—The Medicare contract, up for renewal effective April 1, 1959, was signed by the MSMS President and Secretary.
- **President-Elect M. A. Darling, M.D.,** Detroit, reported that the MSMS Group Life Insurance carrier had requested the Michigan Commissioner of Insurance to authorize March 1 as effective date for the MSMS Group Life Plan—and it is anticipated that this request will be granted.
- **Ground breaking ceremonies at site of new MSMS Headquarters Building** (Saginaw Street—M-78—and Abbott Road, East Lansing).—Plans for the simple ceremony scheduled for April 1, were outlined by Secretary L. Fernald Foster, M.D., Detroit. Ground breaking is one of three ceremonies connected with the new building, the others and more important being the corner stone laying, and the final dedication. It is anticipated that the new building will be ready for occupancy about June 1, 1960.

  Acoustical Consultants, as recommended by Architect M. Yamasaki & Associates, and interior design services, using Yamasaki & Associates for an integrated design, were authorized by the Executive Committee of The Council.

  Sale of the present MSMS building at 606 Townsend, Lansing, was discussed briefly and referred to the Committee on Big Look, for consideration on April 1.
- **Increased office space for MSMS** in the David Whitney House (Wayne County Medical Society Building) in Detroit has been approved by the Board of Trustees of WCMS. Cost of alterations and a maintenance contribution are to be paid by the State Society. The Wayne County Medical Society was thanked for its favorable consideration of the State Society's request for more space for its Detroit office.
- **The second quarterly report** on Progress of Blue Shield was authorized to be sent immediately after approval of same by the Executive Committee on April 1.
- **The Executive Committee of The Council approved** proposal of Blue Cross-Blue Shield to televise four health programs from the University of Michigan Medical Center, same to be filmed on magnetic tape in advance of actual viewing on television. This program already had received the approval of the Washtenaw County Medical Society and the University of Michigan.
- **The Executive Committee of The Council approved** in principle the proposition of pilot studies of specifically designated medical benefit structures applied to selective groups, a study proposed by Professor J. McNerney, Director of the study of Hospital and Medical Economics, University of Michigan. The Executive Committee requested presentation of the final plan to the MSMS Council including recommendation on just what is to be done.
- **The Executive Committee of The Council approved** the proposed epidemiological study of leukemia as proposed by Thomas Francis, Jr., M.D., of the University of Michigan, Ann Arbor.
- **The Executive Committee of The Council approved** the proposed program in nutritional training of the Michigan Heart Association.
- **1959 Annual Session.**—(a) Numerous requests for presentation of scientific exhibits at the 1959 MSMS Annual Session in Grand Rapids were referred to a special subcommittee on Scientific Exhibits, with power to act. The personnel of the Committee: W. W. Babcock, M.D., Detroit, Chairman; W. M. LeFevre, M.D., Muskegon; D. Bruce Wiley, M.D., Utica; and Executive Director Wm. J. Burns, Lansing.

  (b) Theme of 1959 Annual Session was decided as "Pearls of Medical Wisdom."

  (c) The two Press Committees for Annual Session for the 1959 Annual Session were appointed by the Executive Committee of The Council:

  1. House of Delegates Press Committee: K. H. Johnson, M.D., Lansing, Chairman; L. Fernald Foster, M.D., Detroit; J. J. Lightbody, M.D., Detroit; C. Allen Payne, M.D., Grand Rapids; and D. W. Thorup, M.D., Benton Harbor.

  2. Scientific Press Committee: Howard G. Benjamin, M.D., Grand Rapids, Chairman; A. B. Gwinn, M.D., Hastings; C. L. Weston, M.D., Owosso; Noyes L. Avery, Jr., M.D., Grand Rapids; and Felix S. Alfenito, M.D., Grand Rapids.

(Continued on Page 714)

easier swallowing after T & A

Xylocaine Viscous provides quick-acting and prolonged surface anesthesia for sore and painful throats, particularly those occurring after tonsillectomy and adenoidectomy. Its cherry-flavored, water-soluble vehicle spreads evenly and adheres intimately to the membranes. Nonirritating and nonsensitizing. Dose: 1 teaspoonful, swished around in the mouth and then swallowed slowly.

Write for additional information regarding other uses which include management of hiccup and reflex vomiting, as well as relief of discomfort associated with laryngoscopy, esophagoscopy, gastroscopy and the passage of esophageal and gastric tubes.

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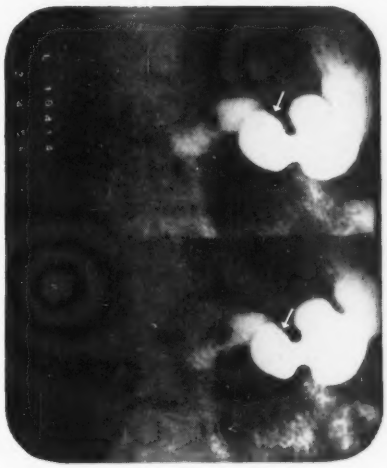
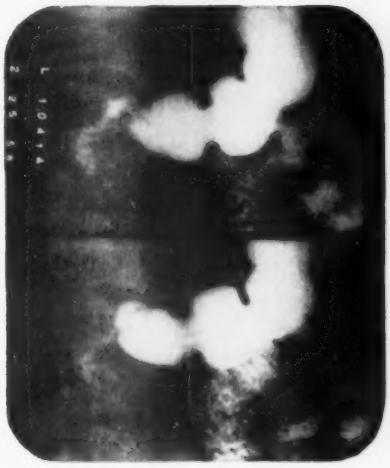
relieve the tension

—and control its G.I. sequelae



Patient A.S., age 53.
Intermittent crises of severe pain over 2 year period; hospital management with Sippy regimen provided relief of symptoms; however, symptoms recurred after each sojourn.



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predictable results in the control of tension and G.I. trauma

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Used prophylactically in anticipation of periods of emotional stress, or therapeutically to relieve tension and curb hypermotility and hypersecretion, PATHIBAMATE is particularly well-formulated for the control of gastrointestinal disorders.

PATHIBAMATE combines Meprobamate (400 mg.) — the noted tranquilizer-muscle relaxant widely accepted for safe management of tension and anxiety states — and **PATHILON** (25 mg.) — an extremely well-tolerated anticholinergic, long noted for prompt symptomatic relief based on peripheral atropine-like action with few side effects.

Indications:
Duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, gastric hypermotility.

Supplied:
Bottles of 100 and 1,000. Each tablet (yellow, ½-scored) contains Meprobamate, 400 mg.; PATHILON Tridihexethyl Chloride, 25 mg.

Administration and Dosage:
1 tablet three times a day at mealtimes and 2 tablets at bedtime. Adjust dosage to patient response. Contraindicated in glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Also Available: **PATHILON** in four forms — ***Tablets*** of 25 mg., plain (pink) or with *phenobarbital*, 15 mg. (blue);
Parenteral — 10 mg./cc. — 1 cc. ampuls;
Pediatric Drops — 5 mg./cc. — dropper vials of 15 cc.

*PATHILON is now offered as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could interfere with the results of certain thyroid function tests.

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HIGHLIGHTS OF THE COUNCIL

(Continued from Page 710)

- **Appointments.**—(a) Herbert H. Harris, M.D., Lansing; William S. Reveno, M.D., Detroit; and George W. Slagle, M.D., Battle Creek, were nominated for two places on the Board of Trustees of Blue Cross (Michigan Hospital Service). (b) Robert M. Heavenrich, M.D., Saginaw, Chairman of the MSMS Child Welfare Committee, was appointed to attend as MSMS representative the AMA Conference on Physicians in Schools, to be held in Chicago, October 13-15, 1959.
  (c) World Medical Association, Montreal, September 7-12. Elmer C. Texter, M.D., Detroit, was appointed as official MSMS representative. (d) Blue Shield Medical Care Plan, April 12-16. President G. B. Saltonstall, M.D., Charlevoix, was authorized to attend as official MSMS representative.
- **Proposed conference or institute on alcoholism** for Michigan physicians, sponsored by the State Board of Alcoholism: the Executive Committee of The Council authorized co-sponsorship of such a conference and requested that the program be referred to the MSMS Committee on Alcoholism for advice and timing.
- **Legal Reports.**—Lester P. Dodd, MSMS Legal Counsel, Detroit, gave interim reports on two legal questions that had been laid before him by two component societies. Final report is to be made at next meeting.
- **Committee Reports.**—The following Committee Reports were considered: (1) Public Relations Committee, meeting of February 1; (2) Committee on Selection of Medical Care Insurance Secretary, meeting of February 4, which reported the selection of Herbert A. Auer, East Lansing, whose duties will begin March 16, 1959. (3) Committee to Arrange Residents, Interns, Senior Medical Students Conference, meeting of February 11; (4) Relative Value Studies Committee, February 14—the Executive Committee of The Council accepted this Committee's recommendation for a new Uniform Fee Schedule for Governmental Agencies, as an interim report for reference to the Permanent Advisory Committee on Fees, and extended a vote of thanks to the Committee for the Completion of this monumental work. (5) Medical Care Insurance Committee, February 18; (6) Preventive Medicine Committee, February 25; (7) Geriatrics Committee, March 4; (8) Maternal Health Committee, March 5; (9) Reports on organizational meetings of Councilor District Medical Care Insurance Committees in six Districts was reported.
- **Report on the Workshop** of Executive Secretaries of component societies, held in the David Whitney House, February 2, was presented by Executive Director Wm. J. Burns and approved.
- **Ingham County Medical Society's resolution** re State of Michigan's financial situation and possibility of an income tax was considered and referred to the MSMS Legislative Committee.

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Recommended by Eminent Michigan Physicians
FLAVOR MELLOWED 4 YEARS IN WOOD
A PREFERRED BEVERAGE FOR HOME AND HOSPITAL

Uneventful Recovery

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GLUCOSAMINE-POTENTIATED TETRACYCLINE

therapy

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capsules
125 mg., 250 mg.

oral suspension
orange flavored, 2 oz. bottle, 125 mg. per teaspoonful (5 cc.)

pediatric drops
orange flavored, 10 cc. bottle (with calibrated dropper), 5 mg. per drop (100 mg. per cc.)

Note: Rapid and high initial antibiotic blood levels are an important factor in uneventful recoveries. Glucosamine potentiation provides the fastest, highest tetracycline levels available with oral therapy. Bibliography and professional information booklet available on request.

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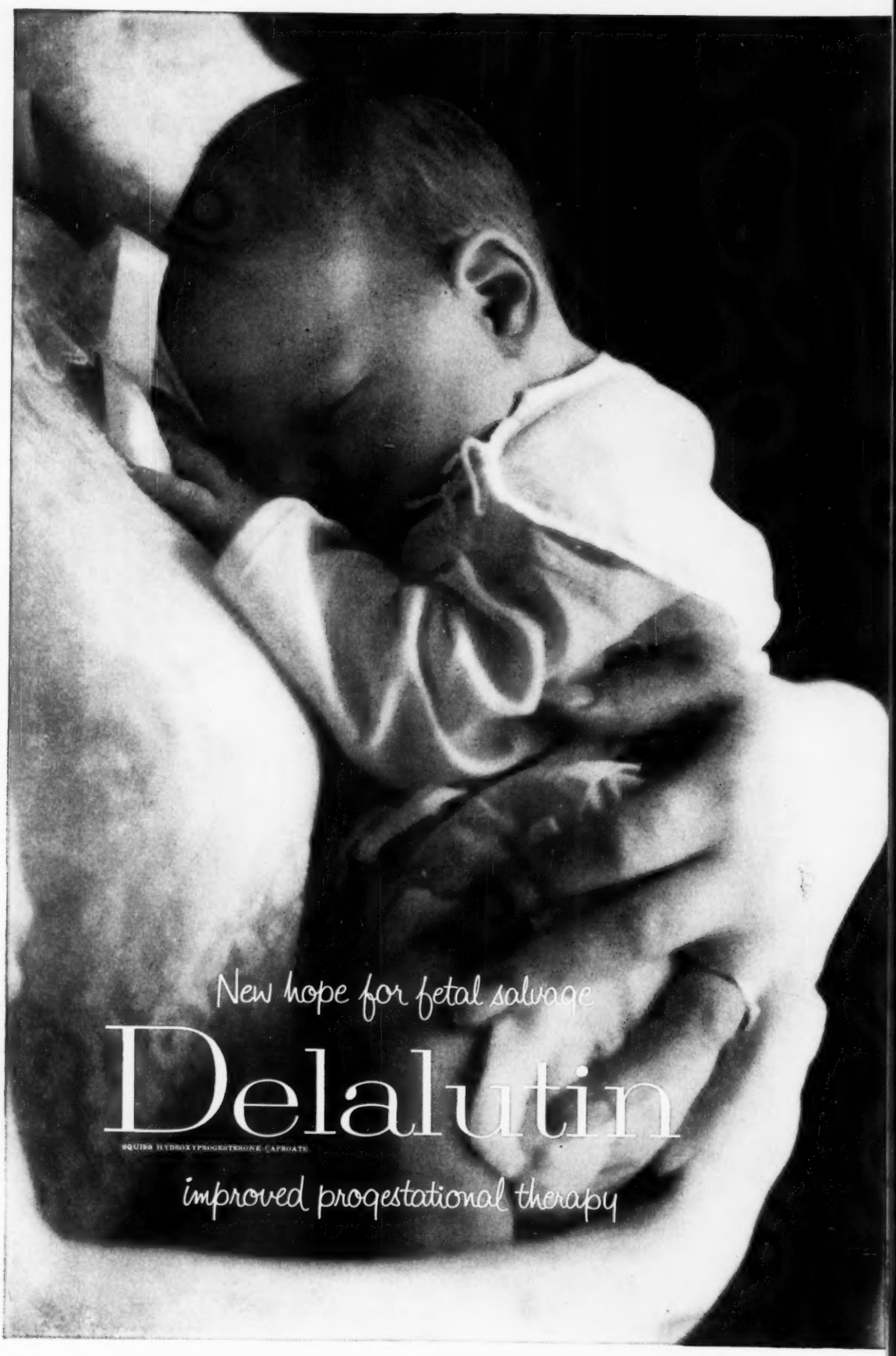
New hope for fetal salvage
Delalutin
SQUIBB HYDROXYPROGESTERONE CAPROATE
improved progestational therapy

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein.[1] Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy
64% of 42 pregnancies were salvaged by progesterone
83% of 73 pregnancies were salvaged by Delalutin

Eichner,[3] found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.
108 (76%) of 142 babies of this birth weight survived without progestational therapy.
16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.
A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.[4] Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

Delalutin offers these advantages over other progestational agents:

- longer-acting and more sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requires injection of less vehicle
- unusually well-tolerated, even in large doses
- requires fewer injections
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

Administration and Dosage: Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

Supply: Delalutin is available in vials of 2 and 10 cc., each cc. containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

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Seal of Assurance Plan

The 1958 House of Delegates instructed that quarterly reports be sent to House members informing them on the progress made in the continuing development of the Seal of Assurance Plan. This is the second report.

1. *Participation in the MSMS Seal of Assurance Plan.* Since the December 31 QUARTERLY REPORT there has been a net gain of 235 Enrollment Authorizations bringing the total number of participating physicians to 4,294.

2. *Councilor District Medical Care Insurance Committees.*—Since January 1, eleven of the fifteen CDMCI Committees have held organizational meetings at which the background, purpose and responsibilities of the committees were explained. These councilor districts which have held meetings to date are: Districts 2, 3, 4, 5, 6, 8, 10, 12, 13, 14, 1-16-17-18. The remaining four meetings will be scheduled as soon as possible.

3. *Study of Alternative Methods of Payment to Physicians.*—Instructed by the 1958 House of Delegates to study alternative methods of paying physicians for services rendered to subscribers of prepayment plans, the Medical Care Insurance Committee set up a method of study and obtained from Legal Counsel a legal opinion of the Enabling Act which will serve as a guide to the feasibility of plans presented to the Committee for consideration. The MCIC has considered this matter at two recent meetings and next month will review specific methods submitted for committee study.

The report, when completed, will be presented at the next Session of the House of Delegates.

4. *Development of Contract for Over-Sixty-fixe Age Group.*—By resolution, the AMA House of Delegates in December asked State Medical Societies to develop a special medical-surgical coverage program for the over-sixty-five age group. The AMA urged that the contract be at a low premium level and that this be accomplished as quickly as possible to combat Forand-type legislation being introduced in Washington.

The task of working out such a program was given to the MCIC by the MSMS Council. In its study, the MCIC developed a report containing available data on cost and utilization experience for this over-sixty-five group. Based on this, the Committee has been able to report to The Council that it estimates the contract, when available, will be purchased by approximately 100,000 Michigan persons—half of these currently covered by Blue Shield as retirees.

It also tentatively recommended that contract benefits conform to the standard as outlined in the MSMS Statement of Principles.

The Committee also reports that it is studying several methods of reducing the subscription rate, while attempting to maintain as nearly as possible the present Plan A ($2,500) fee schedule.

It is hoped that a final recommendation as to benefits, coverage, premium cost, and eligibility requirements will be forwarded to The Council and to the Permanent Advisory Committee on Fees in early May.

5. *Revised Uniform Fee Schedule for Governmental Agencies.*—The revision of the Michigan State Medical Society's Uniform Fee Schedule for Governmental Agencies has been under study for many months. In November, 1958, The Council of MSMS approved the adoption of M-75, Plan A benefits and those unit values applicable to Plan A as the basis for the revised Uniform Fee Schedule.

This action was referred to the Medical Care Insurance Committee's Subcommittee on Relative Value Study since many items in the Uniform Fee Schedule were not benefits under M-75 and the establishment of relative values for these non-benefit items was necessary. This monumental task is now completed.

Upon final approval by the Permanent Advisory Committee on Fees, The Council will authorize printing of the revised schedule.

D. Bruce Wiley, M.D.
Chairman, The Council

IT CAN BE DONE!

(Continued from Page 700)

"At that time, the policy of appeasement was tried and it failed."

Yes, Quemoy and Matsu would not have satisfied the aggressors any more than legislation calling for hospital care for eligible, retired Social Security beneficiaries will satisfy the proponents of compulsory national health insurance.

Therefore, let's *stand together and stand united* against the thrusts of big government into the medical care field. And equally as important, let's step up the current vigorous program to provide realistic, positive approaches to all phases of health care among all people, young and old.

when pollen allergens attack the nose...

Triaminic provides more effective therapy in respiratory allergies because it combines two antihistamines[1,2] with a decongestant.

These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.[3] *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

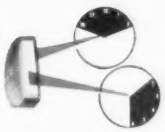
The decongestive action of orally active phenylpropanolamine helps contract the engorged capillaries, reducing congestion and bringing prompt relief from nasal stuffiness, rhinorrhea, sneezing and sinusitis.[4,5]

TRIAMINIC is orally administered, systemically distributed and reaches *all* respiratory membranes, avoiding nose drop addiction and rebound congestion.[6,7] TRIAMINIC can be prescribed for prompt relief in summer allergies, including hay fever.

References: 1. Sheldon, J. M.: Postgrad. Med. **14**:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy **19**:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly **37**:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. **112**:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. **5**:1183 (Sept.) 1958.

Triaminic®

TRIAMINIC provides around-the-clock freedom from hay fever and other allergic respiratory symptoms with just one tablet q. 6-8 h. because of the special timed-release design.



Each TRIAMINIC timed-release tablet provides:

Phenylpropanolamine HCl	50 mg.
Pheniramine maleate	25 mg.
Pyrilamine maleate	25 mg.

Also available: TRIAMINIC SYRUP for those patients of all ages who prefer a liquid medication. Each 5 ml. teaspoonful is equivalent to ¼ Triaminic Tablet or ½ Triaminic Juvelet. TRIAMINIC JUVELETS provide half the dosage of the Triaminic Tablet with the same timed-release action for prompt and prolonged relief.

STOP *running noses* *and open stuffed noses orally*

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Ground Broken for New MSMS Headquarters

President Saltonstall turns first spadefull of earth as Speaker Johnson and Council Chairman Wiley look on.

Armed with a silvered spade, topcoats and umbrellas, a brigade of medical officialdom descended on the site of the new MSMS headquarters and with due ceremony broke the ground on which will be erected a building symbolizing Medical Service to the profession and the public.

The honor of turning the first spadeful of earth was given to President G. B. Saltonstall, M.D., Charlevoix.

The ceremony was part of a special meeting of the Executive Committee of The Council on April 1, 1959. This marked the first official meeting on the new MSMS property. The Executive Committee, which met in Lansing earlier that day, adjourned its regular meeting two hours earlier than usual in order that the special meeting could be called on the new site during the daylight hours.

In his address to the fifty-one assembled guests, Dr. Saltonstall said in part, "To better serve its 7,000 members and, through them, the public, the Michigan State Medical Society is providing a modern building for the administration of its many services. The increased space and facilities will permit additional emphasis in several service areas including postgraduate medical education, medical journalism, survey and opinion research and audiovisual production. By these and other means MSMS will more efficiently serve medicine of today and tomorrow."

Architects for the project are Minoru Yamasaki and Associates of Birmingham, Michigan. The firm is known worldwide for its fresh approach in adapting design to building function. The two-story MSMS structure will be modern in design but in harmony with its surroundings, through use of expanses of glass and pre-cast concrete-marble squares. The building will provide 20,000 square feet of floor.

The headquarters will be completed about June 1, 1960.

As guests watch, a Special Meeting of the Executive Committee of The Council is held on the site of the new MSMS headquarters building in East Lansing on April 1, 1959. From left, B. M. Harris, M.D., Ypsilanti; K. H. Johnson, M. D., Lansing; Wilfrid Haughey, M.D., Battle Creek; A. E. Schiller, M.D., Detroit; G. B. Saltonstall, M.D., Charlevoix; D. Bruce Wiley, M.D., Utica; W. M. LeFevre, M.D., Muskegon; Ralph W. Shook, M.D., Kalamazoo; Mr. William R. Jarrett, of office of M. Yamasaki & Associates, Architects, Birmingham; M. A. Darling, M.D., Detroit; and J. J. Lightbody, M.D., Detroit.

Proven

in over three years of clinical use
in over 600 clinical studies

Specific

FOR RELIEF OF ANXIETY
AND MUSCLE TENSION

Selective

Does not interfere with autonomic function
Does not impair mental efficiency,
motor control, or normal behavior
Has not produced hypotension,
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MEPROBAMATE (WALLACE)

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Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.

WALLACE LABORATORIES, New Brunswick, N. J.

OH-6259

THE HEART DISEASE PATIENT NEEDS RELIEF FROM EMOTIONAL STRESS

ANXIETY INTENSIFIES the physical disorder in heart disease. "The prognosis depends largely on the ability of the physician to control the anxiety factor, as well as the somatic disease."

(Friedlander, H. S.: The role of ataraxics in cardiology. Am. J. Cardiol. 1:595, March 1958.)

TRANQUILIZATION WITH MILTOWN enhances recovery from acute cardiac episodes and makes patients more amenable to necessary limitations of activities.

(Waldman, S. and Pelner, L.: Management of anxiety associated with heart disease. Am. Pract. & Digest Treat. 8:1075, July 1957.)

Miltown®

meprobamate (Wallace)

Available in 400 mg. scored and 200 mg. sugar-coated tablets. Also available as MEPROSPAN* (200 mg. meprobamate *continuous release* capsules). In combination with a nitrate, for angina pectoris: MILTRATE* (Miltown 200 mg. + PETN 10 mg.).

Miltown causes no adverse effects on heart rate, blood pressure, respiration or other autonomic functions.

*TRADE-MARK CM-8275

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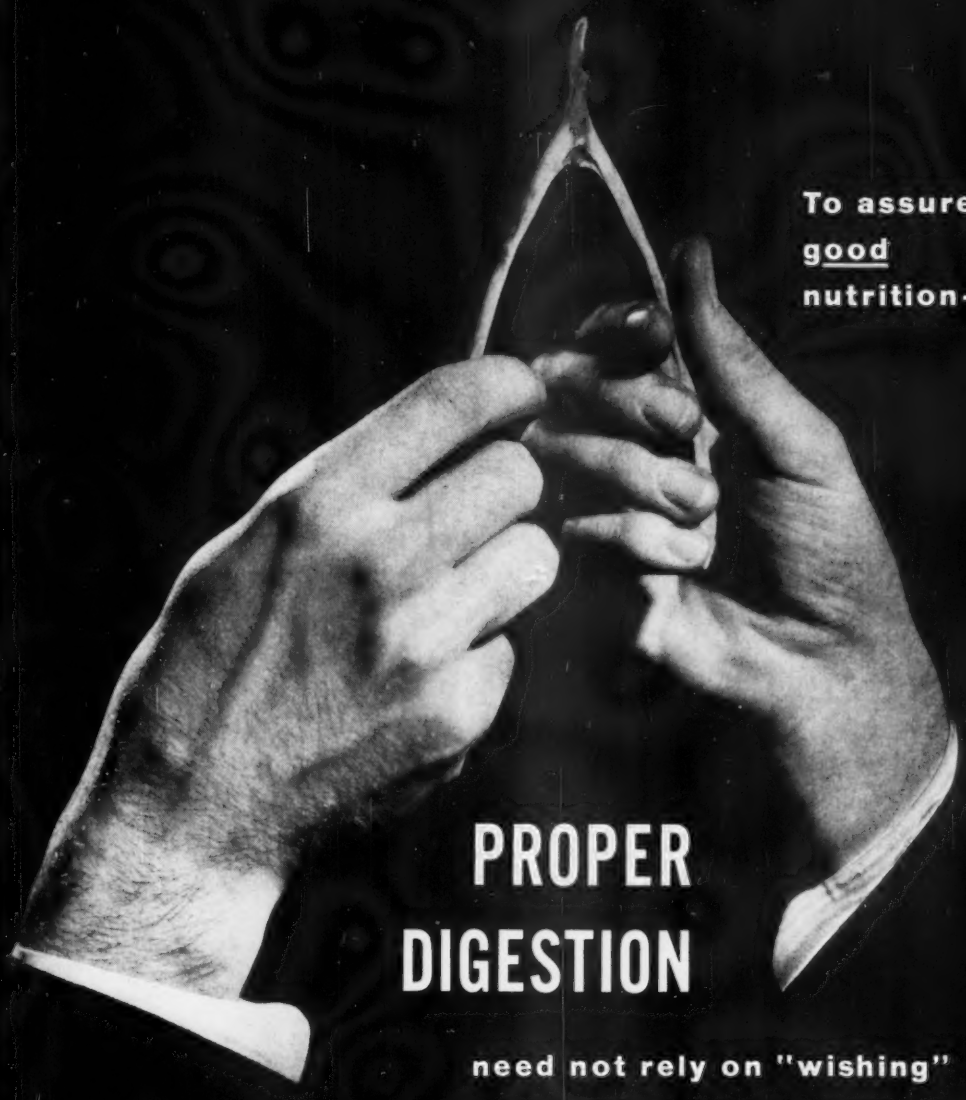

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Pepsin, N.F.	250 mg.
—released in the stomach from gastric-soluble outer coating of tablet.	
Pancreatin, U.S.P.	300 mg.
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—released in the small intestine from enteric-coated inner core.	

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As a comprehensive supplement to deficient natural secretion of digestive enzymes, particularly in older patients, ENTOZYME effectively improves nutrition by bridging the gap between adequate ingestion and proper digestion. Among patients of all ages, it has proved helpful in chronic cholecystitis, post-cholecystectomy syndrome, subtotal gastrectomy, pancreatitis, dyspepsia, food intolerance, flatulence, nausea and chronic nutritional disturbances.

For comprehensive digestive enzyme replacement—

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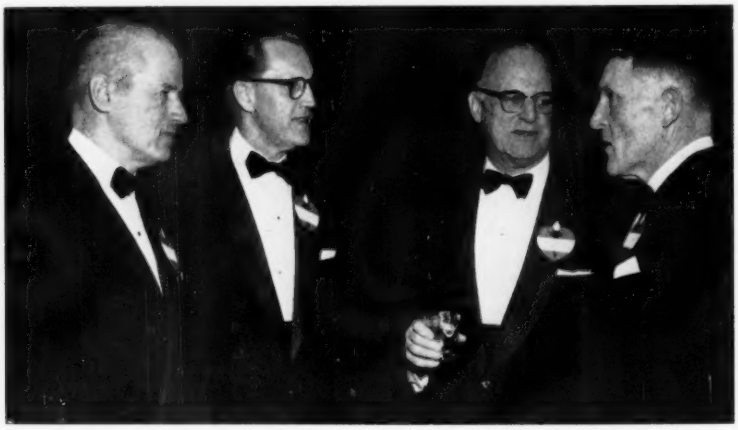
Heart Beats

MICHIGAN HEART ASSOCIATION ELECTS OFFICERS

Donald S. Smith, M.D., Pontiac internist, took office as President of the Michigan Heart Association at the meeting of the Board of Trustees in Detroit, March 13. Mr. Frank N. Isbey, Detroit, was re-elected Chairman of the Board of Trustees. B. I. Johnstone, M.D., Detroit, heads the slate of other officers elected to the following posts: Vice-Presidents—Muir Clapper, M.D., Detroit, John Littig, M.D., Kalamazoo, and Mrs. James McEvoy, Detroit; Secretary—Sidney E. Chapin, M.D., Dearborn; Treasurer—Mrs. Alfred T. Wilson, Detroit.



Pictured left to right are: Donald S. Smith, M.D., newly elected President; F. D. Dodrill, M.D., outgoing President; George E. Wakerlin, M.D., Medical Director of the American Heart Association and guest speaker at the Michigan Heart Association annual meeting; Mr. Frank N. Isbey, Chairman, Board of Trustees.

Dr. Smith is a graduate of the University of Michigan School of Medicine and is affiliated with Pontiac General and St. Joseph Hospitals. In addition he is a consultant at Pontiac State Hospital and Oakland County TB Hospital. Dr. Smith has played an active rôle in advancing the association since the early days of its organization. For the past four years he has been Chairman of the Research Committee of the Michigan Heart Association.

Dr. Smith made the following standing committee appointments:

Executive Committee.—Donald S. Smith, M.D., Pontiac, *Chairman;* M. S. Chambers, M.D., Flint; Sidney E. Chapin, M.D., Dearborn; Muir Clapper, M.D., Detroit; Warren B. Cooksey, M.D., Detroit; F. D. Dodrill, M.D., Detroit; E. A. Irvin, M.D., Dearborn; Mr. Frank N. Isbey, Detroit; Mr. George A. Jacoby, Detroit; F. D. Johnston, M.D., Ann Arbor; B. I. Johnstone, M.D., Detroit; John Littig, M.D., Kalamazoo; Mrs. James McEvoy, Detroit; L. Paul Ralph, M.D., Grand Rapids; Henry L. Smith, M.D., Detroit; Frank Van Schoick, M.D., Jackson; Silas Wiersma, M.D., Muskegon; Mr. Alfred T. Wilson, Detroit.

Research Committee.—F. D. Dodrill, M.D., Detroit, *Chairman;* F. D. Johnston, M.D., Ann Arbor, *Vice Chairman;* Robert S. Ballmer, M.D., Midland; Bert M. Bullington, M.D., Saginaw; M. S. Chambers, M.D., Flint; Muir Clapper, M.D., Detroit; F. A. Coller, M.D., Ann Arbor; John Littig, M.D., Kalamazoo.

Community Service and Education Committee.—B. I. Johnstone, M.D., Detroit, *Chairman;* Sidney E. Chapin, M.D., Dearborn, *Vice Chairman;* M. S. Chambers, M.D., Flint; Muir Clapper, M.D., Detroit; H. M. Golden, M.D., Flint; E. A. Irvin, M.D., Dearborn; L. Paul Ralph, M.D., Grand Rapids.

Finance Committee.—Mr. Frank N. Isbey, Detroit, *Chairman;* Mr. J. William Hagerty, Detroit. *Vice Chairman;* F. D. Dodrill, M.D., Detroit; Walter C. Folley, Sc.D., Detroit; Mr. George A. Jacoby, Detroit; B. I. Johnstone, M.D., Detroit; Mr. Alfred T. Wilson, Detroit.

George E. Wakerlin, M.D., Medical Director of the American Heart Association, was featured speaker at the Annual Dinner-Meeting of the

(Continued on Page 728)

A SPOON LICKIN' GOOD SULFA!

it's delicious cherry-flavored for children

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N^1 Acetyl Sulfamethoxypyridazine Lederle

just 1 dose a day . . . achieves rapid therapeutic levels . . . sustained for 24 hours . . . extremely low incidence of sensitivity reactions and renal complications . . . convenient, highly economical . . .

ALWAYS ACCEPTABLE . . . WHENEVER SULFAS ARE INDICATED

Recommended dosage: first-day dose is 1 teaspoonful (250 mg.) for each 20 lbs. body weight up to 80 lbs. For each day thereafter, ½ teaspoonful for each 20 lbs. For 80 lbs. and over, use adult dosage of 4 teaspoonfuls (1.0 Gm.) initially, and 2 teaspoonfuls (0.5 Gm.) daily thereafter. Administer immediately after a meal.

Supplied: Each teaspoonful (5 cc.) contains 250 mg. of sulfamethoxypyridazine activity. Bottles of 4 and 16 fl. oz.

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Michigan Clinical Institute

A MILLION TV VIEWERS SEE EYE SURGERY

An estimated 1,000,000 TV watchers saw a cataract extracted from a patient's eye at Providence Hospital in Detroit on April 9 as a prelude to the 1959 Michigan Clinical Institute.

The surgical team which performed the operation was headed by Paul L. Cusick, M.D., assistant professor of ophthalmology at Wayne State University and a member of the staffs of three major Detroit hospitals.

His assistants were Drs. Michael J. Michael and Horace L. Weston and the anesthesiologist was Norbert J. Bittrich, M.D.

Paul L. Cusick, M.D., greets Mrs. Rogan on the morning following the removal of a cataract in her right eye before a state-wide television audience. On hand to express appreciation for her "performance" are D. H. Kaump, M.D., MSMS TV Co-ordinator, and MSMS President G. B. Saltonstall, M.D.

The patient was Mrs. Ethel Rogan, seventy-one, of Pontiac.

The surgery was telecast as an educational project of the MCI to show that modern medicine can remedy eye problems and that persons with cataracts need not live permanently with clouded vision.

State-Wide Coverage

The TV presentation was transmitted over a state-wide network of stations by special arrangement of the Michigan State Medical Society.

As in previous years, the mobile TV facilities of Smith, Kline & French Laboratories, Philadelphia, and its specially trained 13-man team handled the actual televising. Special equipment transmitted the picture from the hospital to WWJ-TV which co-operated in the venture.

The operation was hailed by newspapers and viewers as a major accomplishment by the medical profession in encouraging utilization of available medical techniques. It was pointed out at the MCI that the nation's greatest health problem is to get people to make use of the miraculous medical advances that are available. (A case in point is public apathy toward polio protection.)

Panelists Explain

Since the operation only required about half of the one-hour period, plenty of time was allowed for explanation of cataracts by a panel of four ophthalmologists: Drs. E. L. Cooper, Detroit; H. W.

(Continued on Page 728)

Doctors, too, like "Premarin"®

THE doctor's room in the hospital is used for a variety of reasons. Most any morning, you will find the internist talking with the surgeon, the resident discussing a case with the gynecologist, or the pediatrician in for a cigarette. It's sort of a club, this room, and it's a good place to get the low-down on "Premarin" therapy.

If you listen, you'll learn not only that doctors like "Premarin," but *why* they like it.

The reasons are fairly simple. Doctors like "Premarin," in the first place, because it really relieves the symptoms of the menopause. It doesn't just mask them – it replaces what the patient lacks – natural estrogen. Furthermore, if the patient is suffering from headache, insomnia, and arthritic-like symptoms due to estrogen deficiency, "Premarin" takes care of that, too.

"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

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A MILLION TV VIEWERS SEE EYE SURGERY

(Continued from Page 726)

Henderson, Ann Arbor; G. H. Mehney, Grand Rapids; and J. G. Beall, Traverse City.

To dramatize the benefits of eye surgery, three former cataract patients appeared on the program. Each illustrated a different type of optical aid that substitutes for the removed lens of the eye.

Harry M. Nelson, M.D., Detroit, chairman of the Michigan Cancer Co-ordinating Committee, presents a scroll of appreciation to Wendell G. Scott, M.D., of St. Louis, at the Cancer Luncheon of March 11 during the 1959 Michigan Clinical Institute. Dr. Scott was the MCCC lecturer appearing that morning. The luncheon was attended by doctors of medicine and lay persons prominently interested in the problem of cancer control.

Daytime Closed Circuit for M.D.'s

During the MCI, closed circuit telecasts originated from Providence Hospital and were seen by doctors assembled in the grand ballroom of the Sheraton-Cadillac Hotel.

Medical co-ordinator for all MSMS TV activities was Donald H. Kaump, M.D., Detroit.

GAIN AT MCI—1511 M.D.'s

Blessed with good weather and an outstanding scientific program, the thirteenth annual Michigan Clinical Institute rang up a total registration of 2,975, with 1,511 being doctors of medicine.

Highlights of the meeting were the live closed-circuit color TV programs, the Awards Luncheon and the Cancer Luncheon. Photo of the Awards Luncheon will appear in the next number of THE JOURNAL MSMS.

The color telecasts were shown for a two-hour period each morning. A huge new TV screen contributed greatly to the acceptance of the clinical information originating from the operating rooms of Providence Hospital. TV medical co-ordinator for the Institute was Donald H. Kaump, M.D., Detroit.

The excellence of the program and the technical exhibits drew acclaim from many M.D.'s who attended. As a result of the program, unprecedented media coverage was given to the meeting. From Monday to Friday, the Press Room was abuzz with reporters, news photographers, and radio and TV people who wished an opportunity to chat with the guest speakers.

While more than 1,500 M.D.'s were receiving postgraduate information, a group of doctors volunteered to tell the story of how medicine has progressed under the free enterprise system. More than 40 luncheon clubs entertained medical speakers during the week.

MICHIGAN HEART ASSOCIATION ELECTS OFFICERS

(Continued from Page 724)

Michigan Heart Association in Detroit, March 12. Dr. Wakerlin cited the large part the Heart Association has had in the advances made in the last decade. He stressed the importance of supporting basic research and emphasized the need for support of young medical investigators. There will have to be an increase in funds available for research to carry out the plans now being formulated, he added.

Two Organizations Merge

The American Society for the Study of Arteriosclerosis recently merged with the American Heart Association. The Society has become the Council on Arteriosclerosis of the American Heart Association.

This brings to eight the number of Councils now active in the Heart Association's program. The other councils cover such areas as clinical cardiology, cardiovascular surgery, circulation, high blood pressure, rheumatic fever and congenital heart disease, basic science and community service and education.

Although arteriosclerosis has always been a primary concern of the Heart Association, until now, it has not had a formal council covering that area.

The new Council on Arteriosclerosis will hold a scientific session and a symposium as part of the Heart Association's thirty-second annual scientific sessions in Philadelphia, next October 23-25.

Despite sharp drops in the incidence of polio since the development of the Salk vaccine, many persons in the most susceptible age groups remain unprotected. Only 45 per cent of the preschool children in this country, and only 30 per cent of the adults twenty to thirty-nine years old have been fully vaccinated, according to Health Information Foundation.

re-evaluating tranquilizers?

READ WHAT CLINICIANS ARE NOW SAYING ABOUT ATARAX®

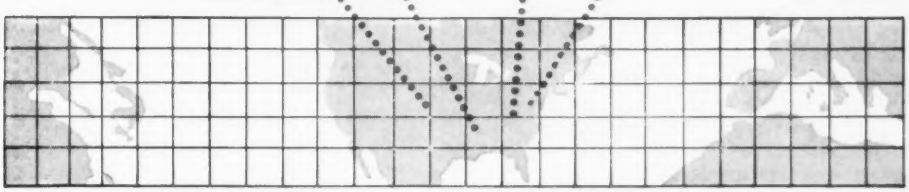
(brand of hydroxyzine)

IN GERIATRICS
"ability to decide correctly has increased, while the illogical response to anxiety has diminished."[1]

IN WORKING ADULTS
"especially well suited for ambulatory patients who must work, drive a car, or operate machinery."[3]

IN PEDIATRICS
"ATARAX appeared to reduce anxiety and restlessness, improve sleep patterns and make the child more amenable to the development of new patterns of behavior...."[2]

IN GENERAL
ATARAX is "effective in controlling tension and anxiety.... Its safety makes it an excellent drug for out-patient use in office practice."[4]



INVESTIGATORS AGREE ON OPTIMAL ATARAX DOSAGES

For childhood behavior disorders	10 mg. tablets Syrup	3-6 years, one tablet t.i.d. over 6 years, two tablets t.i.d. 3-6 years, one tsp. t.i.d. over 6 years, two tsp. t.i.d.
For adult tension and anxiety	25 mg. tablets Syrup	one tablet q.i.d. one tbsp. q.i.d.
For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.

Supplied: Tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America **5**:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. **57**:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. **58**:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. **64**:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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Science for the World's Well-Being

Michigan Association of the Professions Started

W. M. LeFevre, M.D., Elected First President

W. M. LeFevre

Michigan Association of the Professions, incorporated as a non-profit organization, December 1, 1958, has opened executive offices in East Lansing, President William M. LeFevre, M.D., Muskegon, announced this month.

The membership in MAP, an association specifically designed to serve, promote and enhance the professions, is made up of persons engaged in the professions of architecture, dentistry, engineering, law and medicine. To be eligible for membership in the statewide organization, the professional person must be a member of the individual state society of his profession.

Bylaws of MAP, at present, provide that the five state professional organizations shall be elected to state association membership. These include the Michigan Society of Architects, the Michigan Society of Professional Engineers, the Michigan State Dental Association, the Michigan State Medical Society and the State Bar of Michigan. All members of these five societies are eligible for individual memberships; however, it is *not* necessary that a state organization be a member in order for the individual member to apply for membership.

Such other state professional organizations as shall apply for membership will subsequently be declared eligible for membership by a vote of not less than three-fourths of the whole Board of Directors.

MAP will serve the various professions in fields of Legislation, Public Relations, Education, Business Services and Techniques. It is to be emphasized that MAP will be bi-partisan, serving its members as a communication medium between the professions and their legislative bodies on matters directly affecting professionalism. It will seek to place Professions in the same category of "molders of public policy" as business, labor, and farming.

In the field of Public Relations every effort will be made by MAP to educate the public as to what constitutes professionalism. The public must be convinced that professionalism is vital to progress and research. MAP will strive to explain what a professional man is and why—in order that the professions can continue to have freedom of action to serve and receive public support of their procedures of private practice.

In educational efforts it has been found that below the professional school level, talented students need information on the potential that exists for them in professional and related vocational fields. Co-operative effort is mandatory if the professions are to continue to attract top quality persons and give increasingly superior service to the public. MAP will supply this co-operative effort.

MAP also is exploring, and if feasible, will offer group programs in retirement funding, medical insurance, group term life, health and accident insurances, group leasing, purchasing, et cetera. Business advices of particular interest to the professional man will be found in the *Journal* of MAP now being planned.

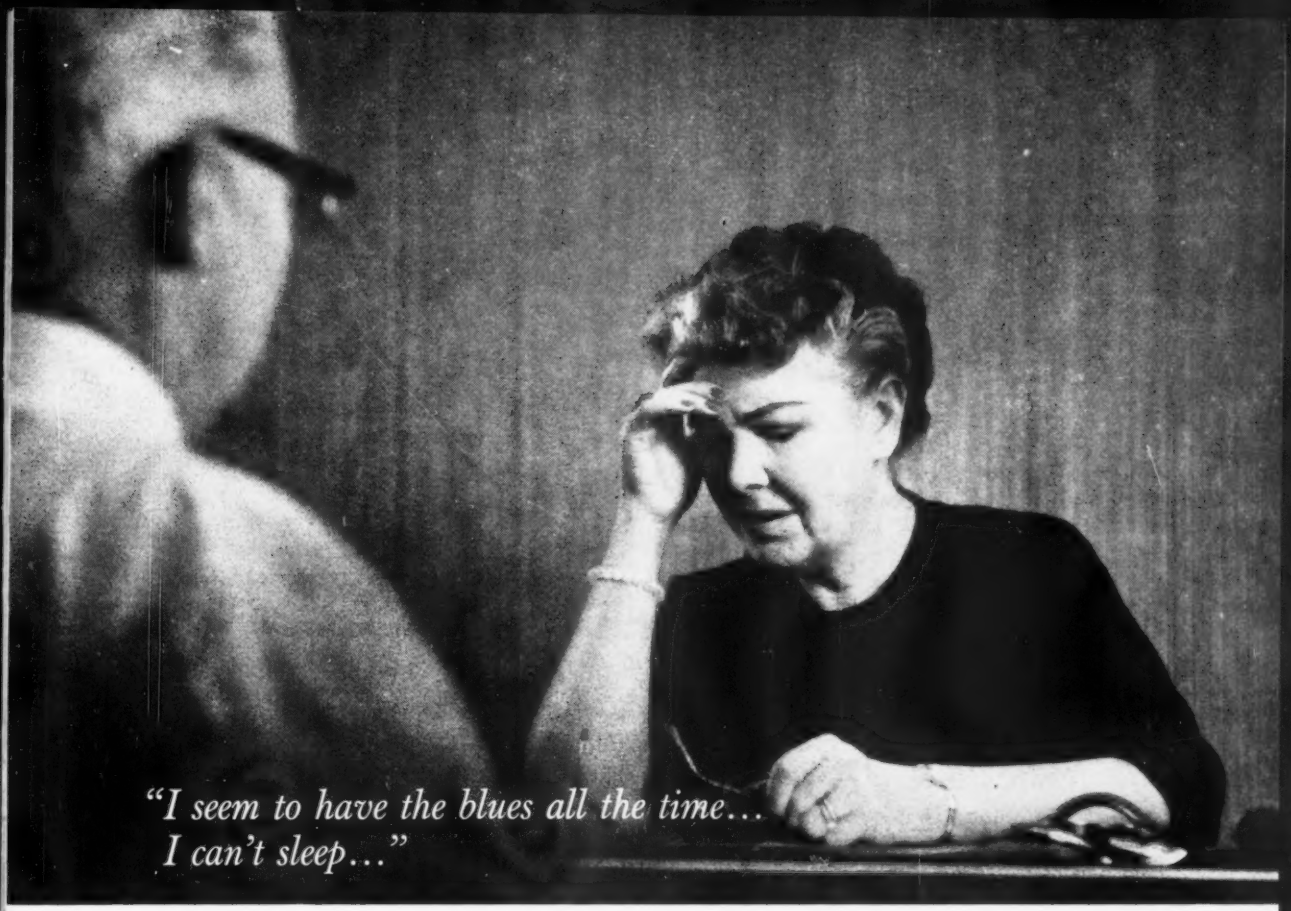
These business services and techniques are not intended to be the main purpose of MAP but rather should be considered as "fringe benefits" of membership.

At the present time, invitations are being mailed to professional people to become Charter Members of MAP. Interest is widespread and applications for the membership are being received from all over the state. Members who for reasons of change of address, misdirected mail, or other reasons do not receive an invitation are urged to contact the executive office of MAP so that every eligible person may be affiliated with the organization.

The executive offices are located at 712 Abbott Road, East Lansing. Mrs. A. H. Loomis has been named administrative assistant of the new organization.

Officers of MAP are Wm. M. LeFevre, M.D., Muskegon, President; Floyd D. Ostrander, D.D.S., Ann Arbor, Vice President; Elmer J. Manson, A.I.A., Lansing, Secretary and Frederick Von Voigtlander, P.E., Ann Arbor, Treasurer.

Additional members of the Board of Directors are James B. Morison, A.I.A., Detroit; N. O. Saulter, P.E., Detroit; John G. Nolen, D.D.S., Lansing; and G. B. Saltonstall, M.D., Charlevoix. Lester P. Dodd, Detroit, is the Legal Counsel, and Hugh W. Brenneman, Lansing, the executive director.



in the depressed, unhappy patient

PROMPTLY IMPROVES MOOD

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References:

1. Alexander, L.: J.A.M.A. 166:1019, March 1, 1958.
2. Current personal communications; in the files of Wallace Laboratories.
3. Pennington, V.M.: Am. J. Psychiat. 115:250, Sept. 1958.

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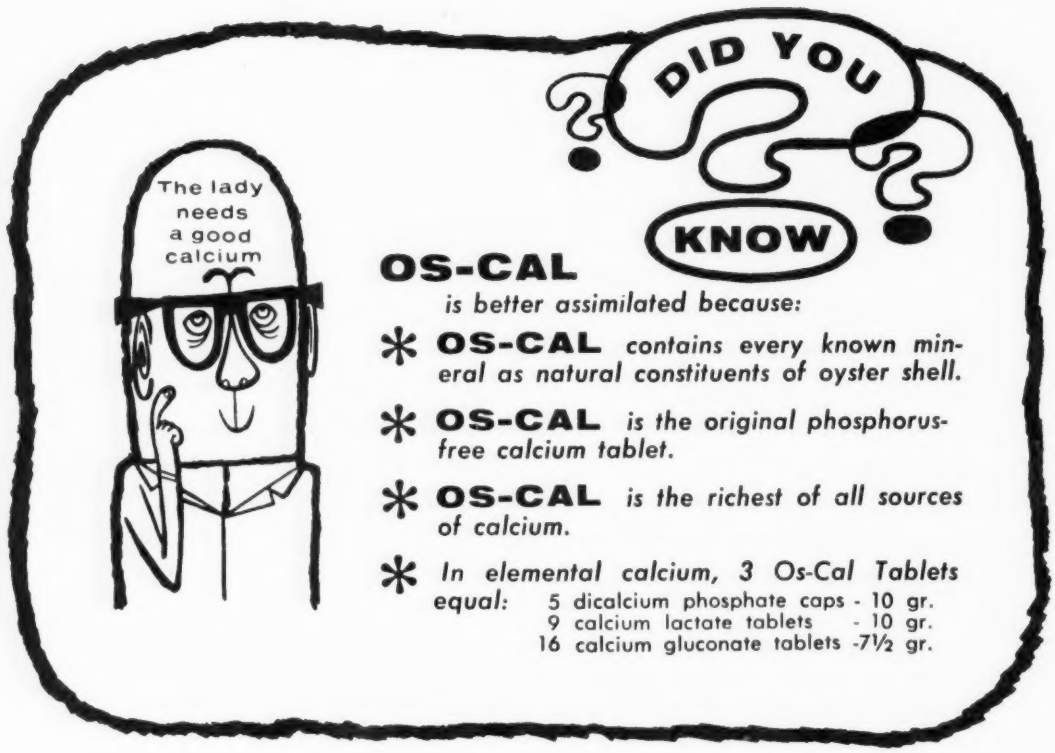

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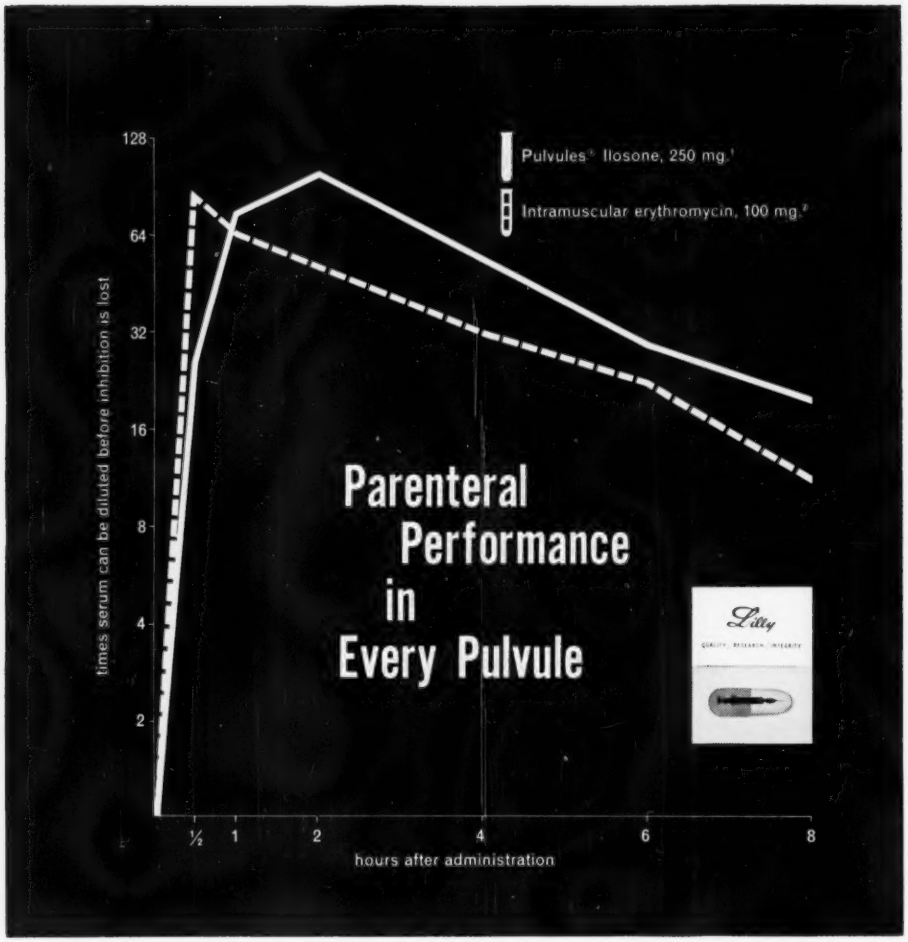

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1. Antibiotic Med. & Clin. Therapy, 5:609, 1958.
2. Data from Antibiotics Annual, p. 269. 1954-1955.

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of the Michigan State Medical Society

Issued Monthly Under the Direction of The Council

VOLUME 58 MAY, 1959 NUMBER 5

William Beaumont and His Contribution to Medicine

By Alfred H. Whittaker, M.D.

IN THE following pages there is a presentation of material concerning William Beaumont and his contribution to medicine which is intended to summarize current information available regarding the clinical and the historical knowledge of the field of investigation in which Beaumont gained world-wide recognition and in so doing brought great credit to Michigan Medicine.

The hundreds of doctors and citizens who are members of the Beaumont Foundation vouch for the keen interest that is evident in the Beaumont saga.

The doctors of the State, in restoring the old American Fur Company retail store on Mackinac Island and making a gift to the people of Michigan of the building as the Beaumont Memorial, emphasize the importance attached to the physiological experiments and observations carried out on Alexis Bidagan dit St. Martin.

The presentation by text and illustration reflects the effort which has been made to evaluate the work of Beaumont, the many centers in the United States and Canada of Beaumont interest, and it reiterates, especially for the younger physicians, the principles which Beaumont valued so highly—namely, the importance of careful observation, accurate recording of the observations and after careful interpretation of the findings, the expediting of the clinical and therapeutic regimen.

The Beaumont Memorial on Mackinac Island, Michigan

The Memorial, originally the Retail Store of the American Fur Company, in process of restoration, Summer, 1953.

The Beaumont Memorial, just after completion.

The Beaumont Memorial Foundation

By Otto O. Beck, M.D.
Birmingham, Michigan

"OUR age is notorious for its want of piety or sense of the past. Up-to-date men have been too busy making gadgets, automobiles, depressions and wars to care much about anything older than the immediate present." Very aptly put. We tend to forget how important the past is to the present. This also applies to the project on Mackinac Island which the Doctors of Michigan started nine years ago.

Although the Beaumont Memorial was built in 1953, it is a far from finished project. From the time of its dedication on July 17, 1954 until the present time, relatively little progress has been made toward its completion. This has been due, for the most part, to the lack of funds. To overcome this deficiency and to assure a steady income, the House of Delegates of the Michigan State Medical Society at its annual meeting in 1957 authorized the formation of a William Beaumont Memorial Foundation.

Soon after the Foundation was organized, a letter was sent to every member of the Michigan State Medical Society inviting them to become dues paying members of the Foundation. Two classes of memberships were offered, namely—Life and Sustaining. In 1958, the first year of its existence, 364 doctors joined. Of these, fourteen are Life members. If an equal number join in 1959, there will then be sufficient funds in the treasury to resume progress in the Memorial. Furthermore, if the present rate of dues received from the membership is maintained, it is estimated that ten years will be required to complete the project.

Originally, the plans were to reproduce as nearly as possible an early Frontier Trading Post, such as existed in the building at the time that Alexis St. Martin was shot. A number of factors influenced the Board of Trustees to change the plans. To reproduce a frontier store presented many difficulties, besides the main purpose was to honor Dr. Beaumont.

In the past five years, the Foundation has acquired through gifts and purchase some of Dr. Beaumont's furniture, which he used in his home in St. Louis. To display his furniture requires an entire room.

The ground floor is divided into two rooms. In the smaller room will be placed Dr. Beaumont's furniture which consists mostly of bedroom pieces, his bed, a marble topped table, four chairs a book case, and a secretary desk. With proper period draperies on the windows, a few rag rugs on the floor, and an early period stove connected to the chimney, an attractive Beaumont Room will be created.

The larger room is already furnished with early French Canadian habitant living room pieces. These were purchased for the Foundation in Montreal by the Detroit Institute of Art. The French Colonial style is shown in this room. This is something unique in the story of Michigan, and until this restoration was done there was absolutely nothing in the State of Michigan, except that in the galleries of the Detroit Institute of Art, to represent the two centuries of French Colonial life before the American immigration into this State.

The upper floor consists of one large room. Here will be developed a medical museum. At present there are in possession a few surgical instruments which were in use a hundred or more years ago besides a number of various kinds of medical curios. A friend of the medical profession has willed his large collection of rare, antique surgical instruments to the Beaumont Memorial Foundation. This collection consists of over 500 pieces and took more than thirty years to collect. Also in this room will be portrayed the romantic life of William Beaumont, M.D., while on Mackinac Island. This will be done in a series of dioramas. The first one will depict the scene of the inside of the frontier trading post at the time of the accidental shooting of Alexis St. Martin. Assembled in the

store will be shown figures of fur traders, Indians, voyageurs and clerks. One of the voyageurs will be holding a shotgun, and the prostrate figure of Alexis St. Martin will be shown lying on the floor, having just received the full load of shot in his side.

Other dioramas will show Alexis St. Martin in Dr. Beaumont's home, helpless, homeless, and sick, without friends or loved ones, being fed, nursed, treated and provided with all the necessities of life by Dr. and Mrs. Beaumont. Later dioramas will show a healthy Alexis St. Martin on whom Dr. Beaumont is conducting experiments through the gastric fistula.

The first two dioramas may be completed this year for display in 1960. The shortage of funds prevents doing more this year.

When completed, this Memorial will be a contribution from the Doctors of Medicine of Michigan for the enlightenment and pleasure of the people. It preserves a heritage that is ours.

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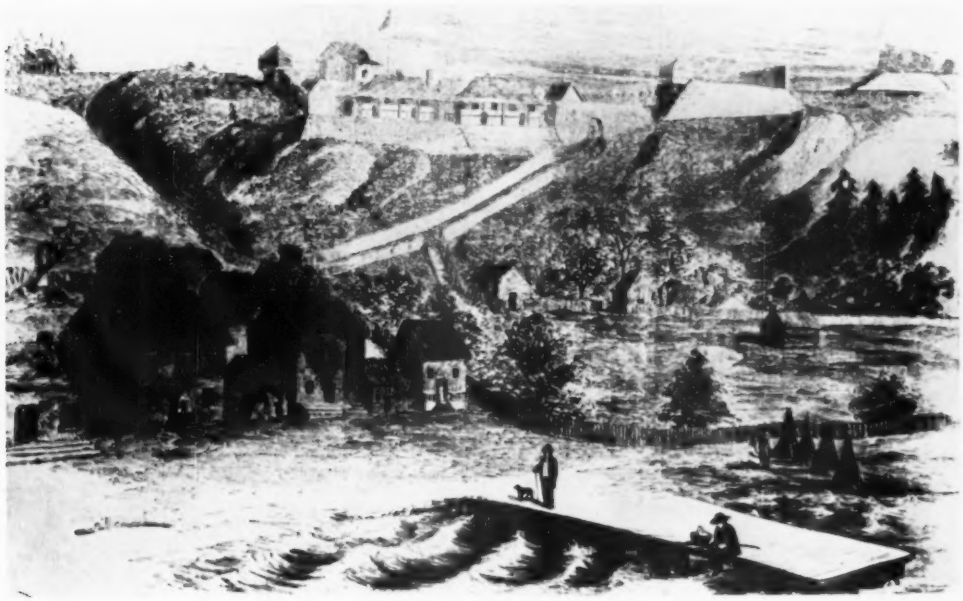


VIEW OF TOWN OF MACKINAC ISLAND
From Ballou's *Pictorial Drawing Room Companion*, May 5, 1855.

Alexis St. Martin

By Edward H. Bensley, M.D.
Montreal, Quebec, Canada

IN OCTOBER, 1957, the Canadian Physiological Society appointed a committee to seek ways and means of memorializing the grave of Alexis St. Martin at St. Thomas, a small village in the Province of Quebec about 40 miles northeast of Montreal. This was done at the suggestion of Dr. Charles A. Mitchell who for many years has been keenly interested in the history of science in Canada. The composition of the committee is as follows: Dr. E. H. Bensley (Chairman), Dr. Roméo Boucher, Dr. Guy E. Joron, Dr. Charles A. Mitchell, Dr. Eugène Robillard, Dr. James A. F. Stevenson and Dr. Lloyd G. Stevenson.

Readers will recall that Alexis St. Martin was the famous patient of a famous doctor. Grievously injured in the chest and abdomen by the accidental discharge of a shotgun on June 6, 1822, at Mackinac Island in northern Michigan, Alexis made a miraculous recovery under the care of Dr. William Beaumont, a United States Army Surgeon. After his wounds had healed, Alexis was left with a permanent gastric fistula and became the subject of Beaumont's pioncering work on the physiology of digestion.

Our committee decided that its first task must be to collect as much information as possible about Alexis St. Martin. Knowledge of the man is essential to the planning of an appropriate memorial. Therefore, although some thought has been given to the form which this memorial may eventually take, most of our efforts to date have been directed to reconstructing the details of Alexis St. Martin's life. I must emphasize at the outset that our work is far from complete and this article should be regarded only as a report on progress.

Some of the facts of Alexis' life are to be found in Beaumont's account of his experiments and observations[2] and in the writings of Sir William Osler[9] and Dr. Jesse Myer,[7,8] Beaumont's biographers. Additional data are contained in papers by Janowitz,[4] Luckhardt[6] and Peckham.[10,11] Parish records have provided details of Alexis' birth, marriage, death and burial and have enabled us to trace some of his ancestors and descendants. In this we have been ably and generously assisted by M. Gabriel Drouin, Président, Institut Généalogique Drouin, Montreal and Paris. We have located one of Alexis' granddaughters, now living in Montreal, and are attempting to get in touch with other surviving relatives. The personal contacts with the family are being made by Dr. Eugène Robillard, without whom the committee could accomplish very little. From these various sources we are able to present the following incomplete and fragmentary account of Alexis St. Martin.

Parish records show that Alexis was born and baptized in the Roman Catholic faith on April 18, 1794 at Berthier, Lower Canada (now the Province of Quebec). He was thus born earlier than has been assumed previously. Other records, including that of his burial, underestimate his age. His father was Joseph Bideguin dit St. Martin. Later documents show Alexis' full name to have been Alexis Bidagan dit St. Martin, Bidagan being a variant of Bideguin. The family was French in origin, Alexis' paternal grandfather having come to Canada from Masparraute, a village in the extreme southwest of France within the old province of Navarre.

We know nothing of Alexis from his birth and baptism on April 18, 1794 to the day of June 6, 1822 when, at Mackinac Island as a voyageur in the employ of the American Fur Company, he was wounded by the accidental discharge of a

Presented in part at a meeting of the Osler Society of McGill University, November 6, 1958.

Dr. Bensley is chairman, Committee on the Memorialization of Alexis St. Martin, Canadian Physiological Society; Director, Department of Metabolism and Toxicology and Secretary of the Medical Board, Montreal General Hospital; Associate Professor of Medicine, McGill University; Past President, Canadian Society for Clinical Chemistry; Honorary Secretary, Canadian Federation of Biological Societies; Consultant in Nutrition, Canadian Forces Medical Council.

shotgun. Presumably his home had remained in the vicinity of Berthier, for it was there he returned when in later years he left Dr. Beaumont. The story of the accident and the subsequent course of the wound are too well-known to require repetition here. He was treated by Dr. Beaumont at Fort Mackinac and, when declared a "pauper upon the Town and County of Mackinac" and threatened with deportation to Lower Canada, he was taken into Beaumont's family. In May 1825, while still at Mackinac, Beaumont commenced his experiments, although he had made and reported important observations before then.[5] The following month, Beaumont was transferred to Fort Niagara, taking Alexis with him. Then in August of the same year, Beaumont, having obtained furlough, took Alexis to Plattsburgh, New-York. They had been in Plattsburgh "but a very short time, when the close proximity of the Canadian border and the scenes of his boyhood proved an irresistible temptation to St. Martin, and he took 'French leave' of his benefactor."[7] At the expiry of his furlough, Beaumont had had no news of Alexis and was compelled to return to duty at Niagara without him.

Alexis had gone back to his Canadian home and, as shown by parish records, on October 9, 1826 he married Marie Joly at Ste. Elizabeth, a few miles from Berthier in Lower Canada. The next year he was engaged as a voyageur by the Hudson Bay Fur Company and made at least one trip west to the Indian country, going out in 1827 and returning in 1828. Meanwhile Beaumont was trying to get in touch with Alexis through agents of the American Fur Company. Through them he learned in 1828 that Alexis was living about twelve miles from Berthier at La Chalaupe.

In August 1829, Beaumont's efforts to obtain the services of Alexis met with success. The American Fur Company engaged Alexis and transported him from Lower Canada, with his wife and two children, to Fort Crawford, Prairie du Chien on the Upper Mississippi, where Beaumont was now stationed. Beaumont resumed his experiments on Alexis, who now stayed with him for almost two years. Then in the spring of 1831, Alexis and his family returned to Lower Canada with Beaumont's consent. The description of the trip is of interest since it shows Alexis' skill as a voyageur. Traveling in an open canoe with his family, Alexis paddled down the Mississippi passing by St. Louis, Missouri, to the mouth of the Ohio, ascended that river, branched off on one of its northern tributaries, portaged to Lake Erie and then, by way of Lake Ontario and the St. Lawrence River, reached their home beyond Montreal.

Alexis had promised to rejoin Beaumont and he kept his promise. In the fall of 1832, Beaumont went to Plattsburgh on furlough. Here he was met by Alexis who had left his family at home in Lower Canada. Beaumont resumed his experiments and again Alexis stayed with him for almost two years. The greater part of Beaumont's furlough was spent in Washington where Alexis was made a sergeant of a detachment of orderlies stationed at the War Department. This was done to ease the financial burden on Beaumont. The "descriptive Role of Sergeant Alexis St. Martin" stated that "he is twenty-eight years old, has dark eyes, dark hair, dark complexion, and is five feet five inches high, that he was born in Berthier, Lower Canada, that his occupation is that of laborer, and that he enlisted on December 1, 1832, for a period of five years."[7] On the expiry of his furlough in 1833, Beaumont was ordered to New York City and later to Plattsburgh. Alexis went with him and the experiments continued.

In the spring of 1834, Beaumont and Alexis separated. They had just completed a short trip during which Alexis had been exhibited to medical societies in a number of cities, including Boston. Beaumont's book[2] had been published. Alexis was permitted to return to Lower Canada to visit his family, having promised that he would rejoin Beaumont at Plattsburgh in June. This time he failed to keep his promise. He and Beaumont never met again.

Over the next nineteen years, from 1834 to 1852, repeated attempts were made to persuade Alexis to go to Beaumont. Agents of the American Fur Company did their best to accomplish this, but all efforts were in vain. During most of this time Alexis was living with his family at or near Berthier. Beaumont was anxious to have Alexis without his family. Alexis wished to bring his family with him and his wife was unwilling to let him go without her. This led to much argument and frustration. Moreover, it was reported that Alexis had fallen into dissolute and dissipated habits and could not be trusted with money. In 1852, Beaumont made his last appeal to Alexis; the following year Beaumont died.

After Beaumont's death in 1853, Alexis becomes more difficult to trace. It seems that in about 1856

he was exhibiting himself at medical schools in the eastern United States. In 1870 he was in Cavendish, Vermont with his wife and their four married children, earning his living by chopping wood. From 1876 to 1879 they were in Oakdale, Massachusetts, where some of the family were working in a cotton mill. Early in 1879 Alexis returned to Canada and settled at St. Thomas with one of his children. Here he spent his last days. His wife and the other children remained in Oakdale.

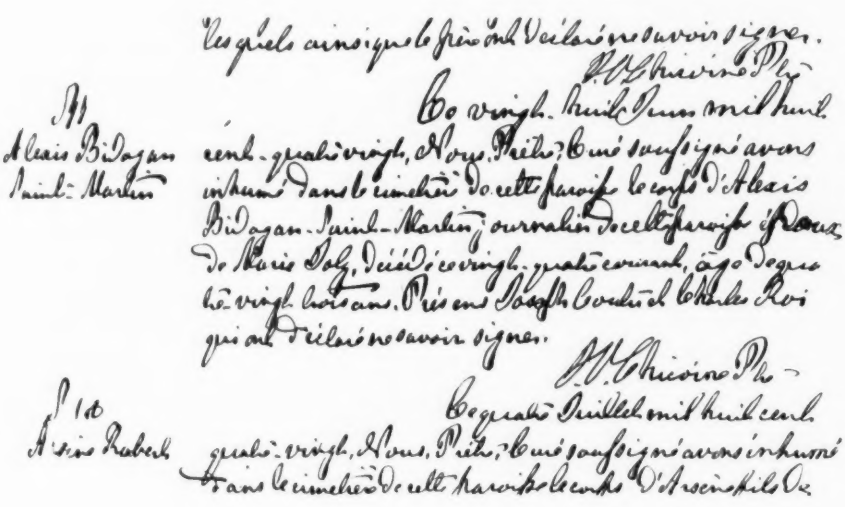


Fig. 1. Record of burial of Alexis St. Martin.

During 1879, Rush Medical College—after locating Alexis at St. Thomas—bargained for his services as an experimental subject. This episode has been described in detail by Peckham.[10] Alexis refused to accept the conditions offered and added that he was too old and sick to make the trip to Chicago. This may well have been true; he was then eighty-five years of age. However, the *Canada Medical and Surgical Journal* of August 1879[1] recorded that Alexis' health was good. This note was published anonymously; probably it was written by Osler.[3] Since it is not widely known, I reproduce it here in full:

> Alexis St. Martin, famous in physiological works for the experiments of Dr. Beaumont, is still alive, and at present a resident of St. Thomas, Joliette county, Province of Quebec, Canada, and is seventy-eight years old. The wound in his stomach has never closed, and at present the opening in his side is nearly an inch in diameter. His general health appears not to have been in any way affected by the curious wound in his side, but has always been excellent. For his age he is now quite strong and hearty. He has been the father of twenty or more children, of whom four are now living. He has always been a hard worker, and never suffered from lack of digestion.

During his last days at St. Thomas, Alexis spoke of his travels in Europe and in a letter written in 1879 he said he had been to Europe with Beaumont.[10] These statements cannot be believed. It is certain that Beaumont never took him abroad and there is no evidence that he went abroad after Beaumont's death. It is true that when Beaumont obtained a furlough in the fall of 1832, his stated purpose was to go to Europe with Alexis. However, Beaumont changed his mind and spent most of his leave in Washington. Also proposals were made in England and France to bring Alexis to those countries but nothing came of them. Perhaps in his old age the memory of these plans led Alexis to believe he had been to Europe.

On June 24, 1880, Alexis St. Martin died at the age of eighty-six. Osler, who was then in Montreal, tried to obtain permission for an autopsy and secure the stomach for the Army Medical Museum in Washington. The family refused. On the day of Alexis' death a warning telegram came to Osler from the local doctor, saying "Don't come for autopsy; will be killed."[3] The body was kept at home for four days during a spell of hot weather to allow decomposition to set in. As a result, the

coffin had to be left outside the church at the funeral service on June 28. The corpse was buried eight feet below the surface of the ground and it was rumoured that the coffin was covered with stones. The warning telegram to Osler was followed by an announcement that the grave was being guarded every night by men armed with rifles.

Burial was in the cemetery of the Roman Catholic Parish Church at St. Thomas. The record of burial, signed by the Reverend Curé Chicoine, is shown in Figure 1. Translated into English, it reads as follows:

Fig. 2. Parish Church and Cemetery at St. Thomas from the front.

The twenty-eighth of June, 1880, we Priest and Curé undersigned have buried in the cemetery of this parish the body of Alexis Bidagan Saint Martin, labourer of this parish, husband of Marie Joly, died the twenty-fourth of this month, aged 83 years. Presence of Joseph Coutruel Charles Roi who have declared that they do not know how to sign.

As in other records, Alexis' age was underestimated.

Photographs of the present Parish Church at St. Thomas and a part of its cemetery are shown in Figures 2 and 3. Alexis St. Martin's grave is in this cemetery but its exact location is unknown. It is not marked and the parish records give no clue. In view of the fears that the body might be disinterred, perhaps the grave was never marked. We hope to obtain information about this from

Fig. 3. Parish Church and Cemetery at St. Thomas from the back.

surviving relatives. If the grave can be located, the Canadian Physiological Society may be able to erect a memorial over it. If it cannot be located, we may seek permission to place a tablet on the wall of the church.

Much has been written of Dr. William Beaumont and his pioneering studies. He justly has many memorials. Alexis St. Martin, too, deserves to be remembered. Some historians have dealt unkindly with him. Luckhardt, referring to a letter from Alexis to Beaumont, described it as "written by the surly, irresponsible, pecunious, ungrateful ward and human guinea pig to his solicitous, merciful, and generous benefactor."[6] Surely this is unfair. Alexis was a voyageur, one of that hardy breed of men who could take a canoe anywhere there was water and, when water ended, carry it to the next place where water began. He was uneducated and was even unable to write; in all his correspondence, others wrote for him and often he signed by making his mark. He could hardly be expected to understand the importance of Beaumont's work. Certainly he had reason to be grateful to Beaumont, who had saved his life and

(Continued on Page 765)

Centers of Beaumont Interest

By Alfred H. Whittaker, M.D.
Detroit, Michigan

THE importance of Dr. William Beaumont's studies of the physiology of digestion is emphasized by the number of historic collections, societies, hospitals, and army medical facilities named in his honor.

As an army medical officer, he was stationed in many localities, leaving in each one an imprint of his character and personality.

The experiments were carried on during the several two-year periods during which St. Martin remained in this country, and each locality in which these two men, Beaumont and St. Martin, collaborated continues to treasure the brief period of their stay.

The William Beaumont Family Bible, protected by a special exhibit case, designed and constructed in native pine wood by William M. LeFevre, M.D., Muskegon, Michigan, is a gift of May Beaumont Brotherton of Elkhorn, Wisconsin, and is on exhibition in the Beaumont Memorial on Mackinac Island.

Beaumont Memorial, Mackinac Island, Michigan

At Mackinac Island, Michigan, the doctors of Michigan have restored the building which was the American Fur Company's retail store, in which Alexis St. Martin was accidentally injured and the famous gastric fistula produced. This is the Beaumont Memorial and is part of an extensive historic restoration.†

The Beaumont Memorial is architecturally French habitant in flavor. The lower floor consists of two rooms, the larger furnished with authentic French-Canadian furniture of the 1822 period. There are maps, ceramic objects, the Dean Cornwell painting of Beaumont and St. Martin. The second room is equipped with Beaumont furniture as a bedroom. On the upper floor is a medical history museum with Beaumont instruments and equipment used by early American physicians, a birch bark canoe and the Beaumont family Bibles.

On July 10, 1900, at a joint meeting of the Upper Peninsula Medical Society and the Michigan State Medical Society, a monument was erected and dedicated to the memory of Dr. William Beaumont. The monument is in Fort Mackinac, facing over the Straits, just to the West of the officers' quarters and not far from the Fort Hospital.

Inscription

Near this spot Dr. William Beaumont, United States Army, made those experiments upon Alexis St. Martin which brought fame to himself and honor to American medicine. Erected by the Upper Peninsula and the Michigan State Medical Societies, July 10, 1900.

In Fort Mackinac, on the Island, is a monument to Beaumont given to the State of Michigan by the Michigan State Medical Society and the Upper Peninsula Medical Society, dedicated in 1900.

Also in the Fort Museum, there is a Beaumont exhibit which is visited by thousands of visitors annually.

†See page 735.

WILLIAM BEAUMONT, M.D.
1785-1853

Painted by Mr. Deane Keller
for the Beaumont Room
of the
Wayne County Medical Society
Detroit

Beaumont Room, Wayne County Medical Society, Detroit

In Michigan, at the Beaumont and Medical History Room of the Wayne County Medical Society, Detroit, is one of the country's finest collections of material of Beaumont association interest. In this collection are contemporary portraits on ivory of Dr. and Mrs. Beaumont, instruments used by the doctor, copies of the first editions of books dealing with the experiments and a fine collection of works on physiology.

In 1922, the Beaumont Lecture Series was founded and each year a lecturer reports original research which he has carried out, usually in the field of applied science. There is a fine portrait of Beaumont* painted by Mr. Deane Keller of the Fine Arts Department of Yale University.

William L. Clements Library, Ann Arbor, Michigan

In nearby Ann Arbor, at the University of Michigan, due to the interest of Dr. Frederick A. Coller, Dr. C. Thomas Flotte and Mr. Howard Peckham, Director of the Clements Library, there has for years been created in the Medical School an active interest in the Beaumont History. Doctor Coller obtained for the Clements Library, some years ago, *(Bulletin XXVI* of the William L. Clements Library, 1937) four letters of St. Martin. These cover the efforts of Rush Medical College to secure the services of St. Martin for experimental purposes and his replies.

Fort Crawford I, Prairie du Chien, Wisconsin

Beaumont having been transferred to Fort Crawford at Prairie du Chien, Wisconsin, St. Martin returned from Canada and the experiments were continued.

In Prairie du Chien, there is a foundation dedicated to raising of funds for a Beaumont Museum. The present Museum, Prairie des Chiens at the Villa Louis on the site of Fort Shelby, Fort McKay and Fort Crawford I contains material relating to Dr. Beaumont who at one time was stationed at the Fort Crawford I Hospital. The interest in this exhibit is enhanced by a diarama depicting Beaumont and St. Martin, painted and constructed by the artist Cal Peters. Enthusiastic supervision by the curator, Miss Florence Bittner, insures continued interest in the fifty-six experiments performed at Fort Crawford I.

Recently, the William Beaumont Memorial Foundation was consolidated with the History Section of the Wisconsin State Medical Society.

Portraits of Dr. and Mrs. William Beaumont, painted on ivory by a contemporary artist. . . . History Room of the Wayne County Medical Society, Detroit.

The first edition of Experiments and Observations on the Gastric Juice and the Physiology of Digestion by William Beaumont, M.D., was published at Plattsburgh, New York, in 1833. There was a reissue in 1834 published at Boston, Massachusetts.

Old Fort Howard Museum, Green Bay, Wisconsin

At the Old Fort Howard Museum, Kellogg and North Chestnut Streets in Green Bay, Wisconsin, a two-room exhibit of Beaumont furniture and other

*See insert photograph in color.

A COLLATERAL LINEAGE

JOHN BEAUMONT (BROTHER OF DR WILLIAM BEAUMONT)
DARWIN BEAUMONT 1840 - 1911 m EMMA BUDDINGTON
LIZZIE BEAUMONT SMITHINGELL 1866 - 1935
LUCILE SMITHINGELL YOUNG
ADDIE SMITHINGELL STOKES
MINNIE BEAUMONT COLEMAN 1868 - 1908
HAZEL COLEMAN LANDIS
ROBERTA COLEMAN BAKER
LILLIE BEAUMONT CULVER 1870 - 1895
EARL CULVER
FLORENCE BEAUMONT 1877 - 1877
LOUIS BEAUMONT 1878 - 1878
BEULAH BEAUMONT 1880 - 1882
DARWIN OSCAR BEAUMONT 1882 - 1892
NINA BEAUMONT 1885 - 1885
RUTH BEAUMONT WILSON 1887 - 1959
DAWANE WILSON
WALTER BUDDINGTON BEAUMONT 1868 - 1869

ANCESTORS AND DESCENDANTS OF WILLIAM BEAUMONT, M.D.

WILLIAM BEAUMONT — LYDIA DANFORTH
SAMUEL BEAUMONT — HESTER BUCKINGHAM
SAMUEL BEAUMONT — ABIGAIL DENNISON
WILLIAM BEAUMONT — SARAH EVERETT
SAMUEL BEAUMONT — LUCRETIA ABEL
WILLIAM BEAUMONT, M.D. — DEBORAH GREENE PLATT

THE BEAUMONTS WERE OF FRENCH (HUGUENOT), NORMAN, AND ENGLISH STOCK.

SIR ROGER de BEAUMONT CREATED EARL OF WARWICK ABOUT 1085 A.D. BY WILLIAM THE CONQUEROR

GENEALOGY OF WILLIAM BEAUMONT BASED ON EARLIER STUDIES BY ARNO B LUCKHARDT, M.D.

COLLATERAL LINEAGE AND MORE RECENT DESCENDANTS' RECORDS BY ALFRED M WHITTAKER M.D.

THE LINE OF ANCESTORS AND DESCENDANTS HERE DEPICTED IS THE IMPORTANT BEAUMONT LINEAGE. FOR DETAIL AND SOURCE MATERIAL SEE RECORDS ON FILE IN THE BEAUMONT MEMORIAL ON MACKINAC ISLAND.

CHART DRAWN BY MARGARET ANN GRANT

SARAH BEAUMONT — (1) LIEUT. DOUGLAS S. IRWIN — (2) ISAAC KEINE
WILLIAM W BEAUMONT
ISRAEL GREENE BEAUMONT — JULIA PELTON
LUCRETIA BEAUMONT — HERMAN D CANFIELD

LUCRETIA IRWIN
MAT BEAUMONT
ETHAN ALLEN BEAUMONT
SOPHIE BEAUMONT
WILLIAM BEAUMONT
JULIA BEAUMONT
DOUGLAS IRWIN BEAUMONT
WILLIAM BEAUMONT CANFIELD

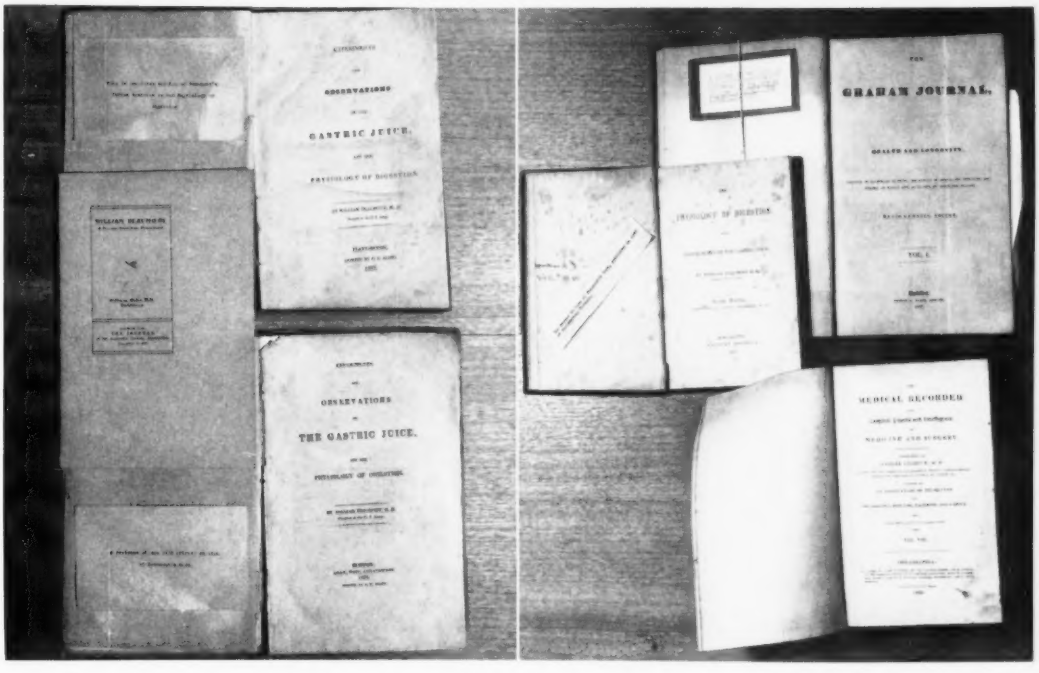
LIEUT. YATES — KATHERINE RHODE

MARGARET RUTH BEAUMONT
KATHERINE LILLIAN MAY BEAUMONT
WILLIAM NICHOLAS CUMMINGS
WM. B. CUMMINGS
MARGARET CUMMINGS
JOHN CAMPBELL CUMMINGS
JULIANA BEAUMONT CUMMINGS
DOUGLAS CUMMINGS

OTTO M. BROWN — G. A BROTHERTON
KENNETH KESSLER
DOROTHY ISABELLA MOIR ADAM
JAMES M. WILLIAMS
MARGARET WILSON

JULIA ANN BROWN
GEORGE BEAUMONT BROTHERTON
RICHARD W BROTHERTON
DEBORAH BEAUMONT KESSLER
NANCY CAROLINE CUMMINGS
JAMES HENRY WILLIAMS
DOUGLAS WAYNE KESSLER
MARY RUTH CUMMINGS
JOHN WILLIAMS
WILLIAM BEAUMONT KESSLER

LAWRENCE G. BATTLE — ANNA DOGARIN — DOLORES Mc CANN
LAWRENCE BEAUMONT BATTLE
JO ANN BROTHERTON
GEORGE CLARE BROTHERTON
JOHN BEAUMONT BROTHERTON



The first report of Beaumont's experiments appeared in the *Medical Recorder*, 1825. A series of articles on Beaumont's experiments appeared in the Graham Journal of Health and Longevity, 1837. The second edition of The Physiology of Digestion was published in Burlington, Vermont, in 1847.

possessions of Dr. Beaumont represents probably the most extensive collection in existence. There are two desks, office furniture, the doctor's book plate and rare books. At the Kellogg Public Library is a collection of books and bulletins of Beaumont interest. The Board of Regents of the Museum is custodian; Miss Katherine E. Byram is secretary to the Board.

Washington University, St. Louis, Missouri

In St. Louis, Missouri, at the School of Medicine of Washington University Library, at Euclid Avenue and Kingshighway, is the collection of manuscripts, letters and books of Dr. Beaumont collected by Dr. George Dock, and given to the Medical School in 1914 by Miss L. Beaumont Irwin, a granddaughter. There is also the manuscript of Mr. Myer's biography of Beaumont.

There are many manuscripts and notebooks kept by Beaumont as a student and during the War of 1812, his license to practice medicine and a letter from St. Martin.

All students, both graduate and undergraduate, are given instructions in the use of the library and are introduced to the Beaumont documents and history. Much of this material is presented in a cabinet in a room conveniently located in the main reading room, where students, faculty and visitors may browse.

Many of the local students are already acquainted with Beaumont if they are graduates of the high school bearing his name. There is also a street and a medical building named after him.

An annual event on November 21, the anniversary of his birth, is the pilgrimage to Dr. Beaumont's grave in Bellefontaine Cemetery, directed by the William Beaumont Memorial Committee of the St. Louis Medical Society. This Society presented a bed of Beaumont's to the Beaumont Memorial at Mackinac Island.

Participating in the ceremonies with the officers and members of the Society are students from the Beaumont High School and various choruses, bugle corps and color guards. A short address is given.

The collection at the Library is under the direction of Miss Elaine Harvey, acting librarian.

Mrs. Marion A. Murphy, former librarian, deep-

ly interested in Beaumont history, presented the *Annals of Medical History* file to the Beaumont Room of the Wayne County Medical Society, Detroit.

The William Beaumont commemorative medallion designed and distributed XIII International Physiological Congress, Boston, 1929, was presented as a gift to the History Room of the Wayne County Medical Society, Detroit, by Owen H. Wangensteen, M.D., Director, Department of Surgery, Medical School of the University of Minnesota.

The Osler Library, McGill University, Montreal

Dr. Osler was at McGill University in Montreal when St. Martin died. He contributed greatly to the appreciation of Beaumont. His nephew, Dr. W. W. Francis, librarian of the Osler Library, on October 20, 1958, wrote:

"Perhaps Osler's review of Myer's book might be worth reprinting in whole or in part, 'William Beaumont,' no. 16 in his series "Men and Books" in the *Canadian Medical Association Journal*, 2:1136-8, 1912. He is very laudatory, but in the last paragraph points out what 'one misses' in Myer's book.

When Harvey Cushing sent me the 1929 facsimile of Beaumont I pointed out to him that the camera or editor had lied in leaving out from the back of the title page the hyphen which New-York sported up to the middle of last century. On January 15, 1930, Cushing wrote me an amusing letter classing me with my friend, L. L. Mackall, of quaint and blessed memory, whom Garrison called Osler's bibliographic sleuth-hound:

"You are certainly a sleuth with Mackallian powers of observation. The facsimile was made from John Fulton's copy, not from mine, thank heaven. The press so mutilated his *editio princeps* that it was no longer of any value. New York is hyphenated in my copy and I can only imagine that the Harvard Press may have been sufficiently punctilious to have removed the hyphen as a misprint. But why shouldn't New York be hyphenated? I think it should be spelled 'Gnu-York.' . . ."

Mrs. Worthington of the Saranac Lake Free Library sent me two copies of a photo of a page from *The Essex County Republican Annual* (Keeseville, N. Y.) 1893, with accounts of William and Samuel Beaumont below their pictures, the only one I remember to have seen of Sam. I can let you have one of these copies, if you need it.

With warmest regards,
W. W. Francis, M.D., *Librarian*

Beaumont Medical Club, New Haven, Connecticut

At Yale University, in New Haven, there is a fine portrait of Beaumont hanging over the fireplace in the Beaumont Room of the Cushing Medical Library. This is the headquarters of the Beaumont Medical Club, of which L. L. Waters, M.D., is secretary-treasurer. The Club is seeking to acquire the birthplace of Beaumont, which is located on a farm in nearby Lebanon, Connecticut.

Saranac Lake Free Library

On June 4, 1955, Miss Ruth Worthington of the Saranac Lake Free Library, Saranac Lake, New York, who is interested in the history of Dr. Beaumont wrote the following letter, which not only reflects her interest but also that of Mr. Hugh McClellan of the *Moorsfield Press*, Champlain, N. Y.

SARANAC LAKE FREE LIBRARY

Saranac Lake, N. Y.

4 June 1955

Over the Memorial Day week-end, I journeyed to Montreal, for another visit to the Osler Library and, on my way back, stopped off to chat a few moments with Hugh McClellan, of The Moorsfield Press, Champlain, on the subject of Beaumont. Friends were with me and Mr. McClellan showed them his valuable folder of Beaumont items and told us many interesting things concerning the early days in Champlain. His great great grandfather was Pliny Moore, first settler of Champlain. William Beaumont's uncle, also William, came to settle in Champlain shortly after Pliny Moore arrived, and, as I

believe I told you, previously, that was the reason that the younger William stopped off there at the end of his long journey up from Connecticut.

Sincerely yours,
RUTH WORTHINGTON

P.S.: Mr. McClellan greatly appreciates all the Beaumont material you have sent him. He is very old, and being in his shop finds correspondence difficult, I imagine. He is official historian of the Town of Champlain.

SKETCHES AND PORTRAITS OF NOTED MEN AND WOMEN

Dr. William Beaumont.

AN EMINENT AUTHORITY ON THE SUBJECT OF DIGESTION, WHOSE MARVELOUS EXPERIMENTS IN THE STOMACH OF ALEXIS ST. MARTIN GAVE HIM A WORLD-WIDE FAME.

The story of Alexis St. Martin ranks among the most interesting in modern scientific literature, and has been read by gentlemen of the medical profession throughout the civilized world. Probably there is not a physician, young or old, or a medical student, well advanced, reading this article, that has not become familiar with the name of Dr. Beaumont on account of the scientific data which he gave to the world by his experiments on the stomach of St. Martin.

Born in Connecticut in 1796. Practiced two years in Burlington, Vt., and one year with Dr. Chandler of Champlain. Went to Plattsburgh early in the century, appointed surgeon in the U. S. Army in 1812, in which position he served some 25 years. He died in St. Louis in 1853.

His book entitled "Experiments and Observations on the Gastric Juice and the Physiology of Digestion," is a standard work, and acknowledged authority all over the civilized world, as he was enabled to make experiments and discoveries which no other man ever made.

Dr. Samuel Beaumont.

ASSISTANT TO HIS COUSIN, DR. WILLIAM BEAUMONT, IN THE ST. MARTIN EXPERIMENTS—"BELOVED PHYSICIAN."

[Contributed.]

The subject of this sketch was the son of William and Mary Beaumont, and was born at Champlain, Clinton Co., N. Y., on March 1st, 1791.

During the interval between the years 1815 and 1819, Samuel Beaumont undertook the study of medicine and was a student with and under the direction of his cousin, Dr. William Beaumont, a surgeon in the U. S. army.

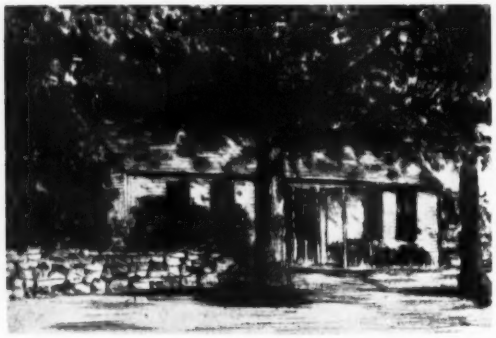
In the year 1832, Dr Beaumont devoted some portion of his time to the work of assisting Dr William Beaumont, in continuing a series of remarkable experiments (which had been commenced by Dr. William Beaumont in 1825), on the action of the gastric juice in the human stomach. The subject of these experiments was one Alexis St. Martin, the contents of whose stomach could be viewed through an opening in his side, resulting from a gunshot wound, which had healed without closing. The history of these novel experiments were embodied in a very interesting and valuable work, the first edition of which was published by Dr. William Beaumont, in the year 1833.

In the arrangement and preparation of this work for publication, Dr William Beaumont was largely assisted by Dr. Samuel Beaumont, of which assistance a handsome acknowledgement appeared in the preface of the work.

Sketches of Dr. William Beaumont and Dr. Samuel Beaumont as published in *The Essex County Republican Annual* in 1893. W. Lansing & Son, McKeesville, N. Y.

The University of Chicago Library, Chicago, Illinois

Miss Eleanor Johnson, bio-medical librarian of the University of Chicago, on September 30, 1958, supplied the following information concerning the Beaumont Collection of the University of Chicago.



Birthplace of William Beaumont, Lebanon, Connecticut

THE UNIVERSITY OF CHICAGO LIBRARY
Chicago, Illinois

September 30, 1958

Dr. Arno B. Luckhardt's article, "The Dr. William Beaumont Collection of the University of Chicago," donated by Mr. and Mrs. Ethan Allen Beaumont of DePere, Wisconsin, in the *Bulletin of the History of Medicine*, VII (May, 1939), 535-563, is completely exhausted.

Mr. Robert Rosenthal, the Head of the Department of Special Collections, has prepared a check list of the Beaumont Collection.

The portraits of Dr. William Beaumont and his wife, Mrs. Deborah Beaumont, hang in the Billings Medical Library, where portions of the collection are displayed in rotating exhibits. The bulk of this treasured collection is maintained in the Department of Special Collections, where it serves to remind historians and medical men alike of a remarkable achievement which originated in the Middle West but which remains a landmark in international medical history.

Sincerely,
ELEANOR JOHNSON
Bio-Medical Librarian

The William Beaumont Collection

The William Beaumont Collection contains the correspondence and various artifacts of Dr. William Beaumont (1789-1853), pioneer American physician and physiologist, and of the Beaumont family. The correspondence includes thirty-six letters dating from 1834 to 1853 of Dr. Beaumont's and twenty-one letters of the Beaumont family post-dating his death. Of particular interest in the correspondence are three letters from Alexis St. Martin to Dr. Beaumont and to Israel Greene Beaumont, the doctor's son, and letters to Dr. Beaumont and to the Beaumont family from Ethan Allen Hitchcock pertaining to events of the Mexican and Civil Wars. Miscellaneous material includes printed and mansucript memorabilia of Dr. Beaumont, various legal documents of the doctor and his family, photostats of Beaumont manuscripts in the William L. Clements Library and the Washington University Medical School of St. Louis, three books including a first edition of Beaumont's "Experiments and Observations on the Gastric Juice," and paintings and photographs of Dr. Beaumont, his family and friends, and various places associated with him. Also included are twenty-nine artifacts, including Dr. Beaumont's surgical instruments, pistol, and watch.

This collection was presented to the University of Chicago Library by Mr. and Mrs. Ethan Allen Beaumont of DePere, Wisconsin, in 1936. For other descriptions of the collection, see: Arno B. Luckhardt, "The William Beaumont Collection of the University of Chicago," in *Bulletin of the History of Medicine*, Vol. VII, no. 5, May, 1939, pp. 535-563; "The Beaumont Meeting," *The Courier*, Number 7, January, 1937.

In England, Dr. Donald Hunter of 132 Harley Street, London, W.I. has expressed deep interest in the history of Beaumont and St. Martin.

Dr. Pedro Salles, Tymbiras, 1272 Bello Horizonte, Brazil, has carried the Beaumont story to South America.

Middlebury College Library, Middlebury, Connecticut

In the Library of Middlebury College, there is a collection of Beaumont material, and the staff is interested in everything associated with Dr. Beaumont and Alexis St. Martin.

Observations of Some Physiologists Who Preceded Beaumont

By Alfred H. Whittaker, M.D.
Detroit, Michigan

IN writing of Dr. William Beaumont's studies on Alexis St. Martin, authors are found usually to attribute great originality to Beaumont in devising his experiments. Thus Beaumont in his first series of experiments concludes, "These demonstrate, at least, that the stomach secretes a fluid which possesses solvent properties. The change in the solid substances is effected too rapidly to be accounted for on the principle of either maceration or putrefaction."

The second series is dated at Fort Crawford, Upper Mississippi, June 20, 1829. St. Martin had left Beaumont four years before and had now returned from Canada. The experiments were resumed. "Twenty minutes after eating, the stomach contents were removed and in a 90 degree water bath, in a vial, digestion was observed to continue at the same rate as in the stomach. After five hours the food was completely digested."

Although it is common knowledge that there had been previous gastric fistulae, no physiologist had taken advantage of the condition to study the physiology of digestion.

A conclusion is reached in Beaumont's "Experiments and Observations," page 158: "These experiments (thirty-seventh and thirty-eighth) are continued proofs of the solvent action of the gastric juice."

Earlier physiologists used a method of numbering their experiments, and in their reports refer to numerous physiologists. Because of the similarity of Beaumont's methods, it can be accepted that he was familiar with the work of at least several investigators, and by their reports and references, the work of many others.

Reference to the attached bibliography will supply the names of physiologists, whose studies of digestion were available to physicians in the early nineteenth century.

Three of these series of experiments antedating Beaumont are those of Spallanzani, Reaumur, and Spencer.

Abbé Lazaro Spallanzani

(Spallanzani, Abbé (lazaro), 1729-1799. Dissertations/relative to the/Natural History/of/Animals and Vegetables./London, 1784).

Spallanzani, a great Italian anatomist and physiologist, was Royal Professor of Natural History in the University of Pavia, Superintendent of the Public Museum, and Fellow of various learned societies.

His work is a confutation of the doctrine of spontaneous generation which he was "one of the first to dispute" with conclusions "similar to those expressed by Pasteur nearly a century later."†

Spallanzani, in speaking of his course of public demonstrations in 1777, repeated "those celebrated experiments of the Academy of Cimento, that show the astonishing force with which the stomach of fowls and ducks pulverize empty globules of glass in the space of a few hours."

"Finding them exact I conceived the design of extending them to other classes of birds and then to animals, not neglecting Man, the noblest and most interesting of all. . . . But these physiological researches laid me under the necessity of examining the most celebrated systems concerning Digestion, and of inquiring whether it is effected by trituration, by a solvent, by fermentation, or by an incipient putrefaction: or whether, according to the opinion of the great Boerhaave, it rather depends upon all these causes operating in conjunction. Thus I was obliged to enter anew upon a question of very ancient date, and though discussed at great length by many physiologists, yet not in my opinion sufficiently elucidated; since most writers have chosen to follow the delusive invitation of theory and hypothesis, rather than the unerring direction of decisive experiments."

Spallanzani, in writing of his experiments and observations dealing with gastric physiology, first refers to the work of Reaumur whom he points out had invented and carried out methods of determining if the comminution and solution of food is effected by the gastric muscles. This great

†A Medical Bibliography. Fielding H. Garrison, M.D., and Leslie T. Morton, M.D. London: Grafton and Co., 1943.

naturalist, in his two excellent memoirs on this subject, devised metallic tubes, open at both ends, filled the natural foods, as grains, were introduced into the stomach of "gallinaceous fowls." No change in the grain occurred in twenty-four hours, even when perforations were added to the metal tubes. If not strong, however, the tubes and even "hollow globules of glass" were crushed, with no injury to the mucosa. A long series of experiments followed using sharp and hard substances with the same results.

The conclusion was that food must be broken down by muscular action before digestion takes place.

The tubes were then filled with food which had undergone crushing and mixture with stomach contents. Spallanzani remarks:

"Are we to suppose, that digestion depends on this action (mechanical action of the gastric muscles) and that simple trituration converts the ailment into that pultaceous mass denominated Chyme? Or rather, that this mass is generated by means of juices either prepared or collected in the stomach, and that trituration is a co-operating, but not the immediate cause of digestion?"

The tubes were then filled with bread which had been moistened with "chyme" and which had undergone "trituration," to determine if the gastric juices convert into "chyme" the food which trituration had prepared for digestion. After fourteen hours no bread remained in the receivers (tubes).

Later experiments demonstrated that bread and beef placed in the gastric juice of a crow in a phial exposed to the sun resulted in digestion of the food.

The first series of experiments (102 various types) included a study of many types of birds and included different sections of the alimentary tract, temperature and types of food, leading to the conclusion that a mechanical apparatus capable of breaking, triturating, and thus pre-disposing food for digestion was necessary "and such in reality are the gastric muscles in fowls."

The experiments were then extended to frogs and water-newts, two species of small carnivorous animals, to snakes and fish, and then to larger animals. It is pointed out that ruminating animals by regurgitating food provide the mechanical trituration in the mouth provided by the stomach of fowl.

Spallanzani in discussing experiment No. 234 states:

"Modern chemists have distinguished three degrees or species of fermentation, the vinous or sweet, the acetous, and the putrid. . . . It remains to be inquired, whether this function (an intestine motion excited by heat and a proper degree of moisture) is connected with a principle of acidity, as some suppose, or of putrefaction, according to others."

A series of experiments followed on animals and on Spallanzani, himself, to investigate the presence of acid and the findings, "prove the presence of an acid principle in the stomachs of some animals and man himself."

After 264 experiments, the following conclusions are reached: (1) of the three species of fermentation, none takes place in digestion; (2) though this function is sometimes accompanied with an acid, this principle disappears entirely toward the conclusion of it; (3) putrefaction never in health attends digestion; (4) the gastric fluid is a real antiseptic.

Concluding, Spallanzani states:

"I only pretend to shew (sic), that not the smallest sensible fermentation takes place in the stomach of animals or man."

René Antoine Ferchault de Reaumur

(Reaumur, Rene Antoine Ferchault de, 1683-1757. French Natural Philosopher and Inventor of the thermometer. Sur la Digestion des Oiseaux Mémoires de l'Académie Royale, Paris, 1752, pages 266-307; 461-495.)

The experiments of Reaumur were carried out and recorded in sequel, not designated by number. The devising of metal and glass containers for food introduced into the stomach is described, the anatomical parts of the digestive apparatus of fowl and birds and the possible function of each is considered with accurate description of the appearance of the gastric contents and changes produced in food. No conclusions were recorded.

In the "Memoires" trituration is considered and attention is paid to the muscle coats of the digestive area.

The importance of chewing is emphasized and fowl having no teeth are provided with a gizzard to crush food to prepare it for digestion. The effect of gastric fluids is noted on food protected by tubes, exposed to the fluids for various length of time.

In the second "Memoir," digestion of meat in voracious birds such as the buzzard is considered. The experiments progress to dogs and then to sheep in 1752. Since the gastric juice did not

penetrate into the food in tubes, a slightly salty taste was noted and litmus paper was not changed so it was concluded there was no acid present.

Thus the information was not accurate but the experiments were valuable as a starting point for future research. It seems probable that Beaumont was familiar with this work and no doubt was helped in his observations made from his experiments on St. Martin.

Oliver H. Spencer

(Spencer, Oliver H., New Orleans physician; honorary member of the Phila/delphia Medical and Chymical Societies. Experiments and Observation/on/Digestion:/ an Inaugural Essay,/for the degree of/Doctor of Medicine./Printed at the office of the Gazette of the/United States./Philadelphia: 1802.)

Spencer in presenting his observations followed the methods of numerous earlier physiologists by listing experiments by number accompanied by the deductions derived from the findings.

The studies by Spencer were made twenty years before the first Beaumont experiment. References are made to the work of Reaumur, Spallanzani, Cullen of Edinburgh, Fordyce, Roebuck of the Island of St. Croix, Boerhaave, Bartholin, Stevens, and Hunter the translator of the Dissertations of Spallanzani, which would indicate the availability of a considerable body of knowledge in the field of gastrointestinal physiology.

Spencer opens his essay by reviewing the Anatomy of the Stomach remarking:

"Its arteries are derived, principally, from the coeliac; and as no glands are to be met with in the substance of the stomach, agreeable to Morgagni, Haller, and Sabbatier, it is probable that the gastric juice is poured out by the minute branches of these arteries which are interspersed throughout the coats of this organ. . . . Much controversy has prevailed in every age, respecting the manner in which digestion is begun and carried on in the stomach."

Discussion follows of trituration or the mechanical forces and reference is made to fermentation and putrefaction. Detailed description follows of the experiments of Reaumur and Spallanzani, and Spencer introduces his own experiments by stating:

"In order to determine whether an acid is always, or even frequently, present in the stomach, upon the establishing or contradiction of which the whole doctrine which we are examining depends, I had recourse to the following experiments."

Then follows a series of six experiments.

In experiment No. 1 and No. 2 several hours after eating, in male adults, emesis was produced. The stomach contents did not change the color of blue litmus paper. In experiments No. 3 to No. 6, dog stomachs were removed several hours after eating and the tests used showed no acid to be present.

The Doctor concludes:

"From the result of these experiments, conducted with much care and attention, we infer, that when the stomach is in a state of health, the appetite good, and proper food only employed, digestion goes on rapidly, without the aliment undergoing any fermentation by which an acid is produced. . . : In the diseased state of the stomach, called dyspepsia, we suppose, that the action of the vessels pouring out the gastric liquor for the purpose of digestion, is sometimes excessive."

The arguments in favor of the theory of animal putrefaction are next considered. Putrefaction occurring during and constituting a part of the process of digestion, in the opinion of Doctor Spencer, required but little labor to refute, and he states his reasons for this view.

The essay is continued with references to the work of other physiologists, both old and contemporary. The absence of digestion of the stomach wall is noted until there is lost "the vital principle of life" and the destruction of all animals of various kinds except those generated in the alimentary tract. These too when they lose the living principle become subject to the digestive powers of the stomach.

Spencer concludes:

"It is only by the aid of facts and experiments that we can arrive at truth, particularly in researches connected with natural philosophy and medicine. The physiologist, who would instruct himself, or teach others, by conjecture alone, had better do nothing, but leave the subject for others, possessed of more industry or more leisure than himself."

From the conclusions of these investigators and of many others, it is evident that Beaumont provided the first real proof that digestion takes place as the result of several factors in various parts of the alimentary tract and that a chemical function is essential.

George Rolleston, M.D., in his exhaustive review of advances in physiology, before the thirty-sixth annual meeting of the British Medical Association in 1870, did not refer to Beaumont although he did refer to the Meisner-Auerbach plexus. However, Beaumont's contribution to the knowledge of the physiology of digestion remained the most important until supplemented by the work of Pavlov.

Bibliographic Notes of Beaumont Interest

ADELON, N.—P., D.M.P. Physiologie de L'Homme (3 vol.) Compere Jeune, Libraire-Editeur. Paris 1829.

ALVAREZ (Walter Clement). (1884- .) The mechanics of the digestive tract. New York, P. B. Hoeber, 1922.

AUERBACH (Leopold). (1828-97.) Uber einen Plexus gangliosus myogastricus. Jahresb. d. schles. Gesellsch. f. vaterl. Cultur, 1862, Breslau, 1863, xl, 103.
Auerbach's plexus.

BAIRD, D. Georgü, SS. T. P. Disputatio Medica Inauguralis de Hepatitide. Ercudebat Joannes Moir, 1820.

BAIRD, D. Georgü, SS. T. P. Disputatio Medica Inauguralis quaedam de Hepatitide Acuta. Excudebat P. Neill: Edinburgi, 1820.

BAIRD, D. Georgü, SS. T. P. Dissertatio Medica Inauguralis. Excudebat Joannes Moir, 1820.

BARGEN, J. Arnold, M.D. Twenty-Fourth Annual Beaumont Lecture. Wayne County Medical Society. Detroit Medical News vol. 36, No. 26, Feb. 1945.

BARTHOLIN (Thomas). (1616-80.) De medicis poetis dissertatio. Hafniae, D. Paulli, 1669.
——. De morbis biblicis miscellanea medica. Francofurti, D. Paulus, 1672. A study of the diseases mentioned in the Bible.

BARTHOLIN, Thomas Vid. Epist. de mot. chyl. et sang. ad.

BEAUMONT (William). (1785-1853.) Experiments and observations on the gastric juice and the physiology of digestion. Plattsburgh, F. P. Allen, 1833. Alexis St. Martin, a Canadian half-breed who had sustained a gastric fistula, was treated and investigated by Beaumont. With his human medium, Beaumont was the first to study digestion and the movements of the stomach *in vivo*. His work on the subject was the most important before Pavlov.

BEAUMONT, Dr. William. Citizen of the Month Bul., Detroit Historical Society, vol. x, No. 6, April 1954.

BERNARD, Claude M. Lecons de Physiologie Experimentale Applique a la Médecine (2 vol.) Chez J.-B. Bailliere. A Paris, 1855.

BERNARD, (Claude). (1813-78.) De l'origine du sucre dans l'économie animale. Arch. gén. de. Méd., Paris, 1848, 4 sér., xviii, 303-19. Bernard's first communication regarding his investigation of the glycogenic function of the liver, reprinted, with translation, in Med. Classics, Baltimore, 1939, iii, 552-80.
——. De suc pancréatique et de son role dans les phénoménes de la digestion. C. R. Soc. de Biol., 1849, Paris, 1850, i, 99-115.
Discovery of the digestive action of the pancreatic juice. Reprinted with translation, in Med. Classics, Baltimore, 1939, iii, 581-617.

BIDDER (Friedrich Heinrich) (1810-94) and SCHMIDT (Carl) (1822-94). Die Verdauungssäfte und der Stoffwechsel. Mitau u. Leipzig, G. A. Reyher, 1852. Even after the work of Prout and Beaumont, some physiologists thought that the free acid of the gastric juice was lactic acid; Bidder and Schmidt finally proved that normally the gastric juice always contains HCL in excess.

BLEMENBACH, Jo. Fred., M.D. Elements of Physiology (2 vol.) Philadelphia, 1795.

BOERHAAVE (Hermann). (1668-1738.) Opera omnia medica. Venetiis, apud L. Basilium, 1742.
Boerhaave had a great reputation as a clinician; he was, in fact, the creator of the modern method of clinical teaching. His writings had an enormous influence during his lifetime. Haller, Cullen, Pringle, van Swietan, and de Haen were among his pupils. His greatest work was his Elementa Chemiae, published at Leyden in 1732.

BRINTON, William, M.D. Lectures on the Diseases of the Stomach. Leau and Blanchard. Philadelphia 1865.

BRODIE, Sir Benjamin Collins, Bart. (1783-1862.) Experiments and observations on the influence of the nerves of the eight pair on the secretions of the stomach. Phil. Trans. Roy. Soc., London, 1814, civ, 102-06.
Before turning to surgery, Brodie did important work in physiology. Above is his study of the influence of the pneumogastric nerve on gastric secretion.

BROUSSAIS, F. J. V., M.D. Translation from the French by John Bell, M.D. A Treatise on Physiology, Carey, Lea and Carey. Philadelphia 1828.

BRUNTON, T. L., M.D. On Disorders of Digestion. Macmillan and Company, London, 1886.

BUDD, George, Organic Diseases and Functional Disorders of the Stomach. Samuel S. and William Wood, New York, 1856.

CANNON, Walter Bradford, (1871- .) The mechanical factors of digestion. London, E. Arnold. 1911.

CARLSON, Anton Julius, (1875- .) Contributions to the physiology of the stomach. Amer. J. Physiol., Baltimore, 1912-13, xxxi, 151-68, 175-92, 212-22, 318-27; 1913, xxxii, 245-63.
Carlson recorded stomach movements by means of a balloon inserted through a gastric fistula. Much of his important work on gastric physiology is summed up in his book.

CARLSON, Anton Julius, (1875- .) The control of hunger in health and disease. Chicago, Univ. Press, 1916.

CHAMBERS, T. K., M.D. Digestion and Its Derangements. S. S. and William Wood, New York, 1856.

CHITTENDEN, Russell Henry, (1856- .) Physiological economy in nutrition. New York, F. A. Stokes Co., 1904.
Chittenden, founder of the first laboratory of physiological chemistry in the U.S.A., made many important experiments in nutrition, especially in connection with the low protein diet advocated by him.

CHITTENDEN, R. H. The Heritage of Connecicut Medicine. The Whaples-Bullis Co., New Haven, Conn., p. 100, 1943.

CHOMEL, Le Professeur. Des Dyspepsies. Librarie de Victor Masson. Paris, 1857.

COMBE, Andrew, M.D. The Physiology of Digestion. Howe and Bates. New York, 1836.

CULLEN, William. (1712-90.) The works. 2 vols. Edinburgh, W. Blackwood, 1827.
Cullen was the most conspicuous figure in the history of the Edinburgh Medical School during the eighteenth century. He was an inspiring teacher and was instrumental in founding the Glasgow Medical School in 1744. His clinical lectures were notable as being the first given in the vernacular instead of in Latin. Cullen was also celebrated for his purely scientific knowledge; his chemical lectures were as renowned as his clinical ones.

Many references are to material in the History Library of the Wayne County Medical Society, Detroit. Others are from the Check List of Fielding H. Garrison, M.D., as revised and annotated by Leslie T. Morton. Grafton and Company, London, 1943.

DALTON, John C., M.D. A Treatise on Human Physiology. (Fifth Edition) Henry C. Lea Phil. 1871.

DAUBENTON, Mr. Observations on Indigestion. (Third Edition) J. Callow, London 1809.

DICK, Robert, M.D. Derangements——of the Organs of Digestion. Barrington and Haswell, Phil. 1842.

DITTRICK, Howard, M.D. Medical Agents and Equipment Used in the Northwest Territory. Ohio State Medical Journal, Vol. 48, No. 8, July, 1952.

DUJARDIN, Beaumetz, Prof. Diseases of the Stomach and Intestines. Translated by E. P. Hurd, M.D., William Wood and Company, New York, 1886.

EDKINS, John Sidney, (1863-1940.) On the chemical mechanism of gastric secretion. J. Physiol., London, 1906, xxxiv, 133-44.
Gastric secretin (gastrin) was first described by Edkins. A preliminary communication is in Proc. Roy. Soc., London, 1905, Series B, lxxvi, 376.

EWALD, C. A., M.D. Lectures on Diseases of the Digestive Organ—(2vol.) Vol. 2 Lectures on Diseases of the Stomach. The New Sydenham Society, London, 1892.

EWALD, C. A., M.D. Lectures on Diseases of the Digestive Organs (2vol.) The New Sydenham Society, London, 1891.

EYRE, Sir James, M.D. The Stomach and Its Difficulties. Second Edition, John Churchill, 1852.

FAITHHORN, John, M.D. Facts and Observations on Liver Complaints and Bilious Disorders. Hickman and Hozzard, Philadelphia, 1820.

FICK, Adolf, M.D. Compendium der Physiologie des Menschen. Wien, 1874.

FLINT, Austin, Jr., M.D. The Physiology of Man. D. Appleton and Company, New York, 1871.

FLINT, Austin, Jr., M.D. (vol. 4). The Physiology of Man, —. —The Existing State of Physiological Science. D. Appleton and Company, New York, 1872.

FOTHERGILL, J. M., M.D. Indigestion, Biliousness. William Wood and Company, New York, 1881.

GRAHAM, Sylvester. A Lecture on Epidemic Diseases Generally—and a Review of Beaumont's Experiments on the Gastric Juice.

GRISCOM, J .H., M.D. Animal Mechanism and Physiology. Harper and Bros., New York, 1840.

HABERSHON, S. O., M.D. Pathological and Practical Observations on Diseases of the Alimentary Canal, Blanchard and Lea, Phil., 1859.

HALSTED, O. New Method of Curing Dyspepsia, with Some Observations on Diseases of the Digestive Organs. O. Halsted, New-York, 1830.

HUNTER, John, F.R.S. Surgeon to St. George's Hospital. Philosophical Transactions, 1772, lxii, 447.

ITALIA, S. R. The William Osler Essay: Elisha North: Experimentalist, Epidemiologist, Physician. Bul. Hist. Med. Vol. 31, No. 6, Nov., 1957, p. 505.

IVY, Andrew Conway (1893-), and FARRELL, James Irving (1900-). Contributions to the physiology of gastric secretion. The proof of a humoral mechanism. A new procedure for the study of gastric physiology. Amer. J. Physiol., Baltimore, 1925, lxxiv, 639-49.

JOHNSON, James, M.D. A Treatise on Derangements of the Liver, Internal Organs. Horatio Hill and Company, Concord 1832.

JOHNSON, James, M.D. An Essay on Morbid Sensibility of the Stomach and Bowels. Benjamin and Thomas Kite. Phil. 1827.

JONES, C. H., M.B. Observations Respecting Morbid Conditions of the Stomach. John Churchill, London, 1855.

KOSAKA, T. and LIM, Robert Kho-Seng, (1897-). Demonstration of the Humoral agent in fat inhibition of gastric secretion. Proc. Soc. Exper. Biol. and Med., New York, 1930, xxvii, 890-91.
The work of Kosaka and Lim led to the discovery of a hormone inhibiting gastric secretion ("enterogastrone").

KÜHNE, Willy, (1837-1900) and CHITTENDEN, Russell Henry, (1856-1943). Über die nächsten Spaltungsproducte der Eiweisskörper. Ztschr. f. Biol. München, 1883, xix, 159-208.
Kühne and Chittenden isolated and named several new substances during their investigation of the products of digestion. See also the same journal, 1884, xx, 11-51; 1886, xxii, 409-58; 1889, xxv, 358-67.

KÜHNE, Willy, (1837-1900) Über das Typsin. Verhand. d. naturh.-med. Ver. zu Heidelberg, 1874-77, n. F., i, 194-98. Isolation of Trypsin.

LANCISI, Giovanni Maria, (1654-1720) Opera quae hactenus prodierunt omnia. Genevae, J. A. Cramer et fil, 1718.
Lancisi, great Italian clinician, was the first to describe cardiac syphilis; he was also notable as an epidemiologist, with a clear insight into the theory of contagion. He was Physician to Pope Clement XI, who turned over to him the forgotten copper plates executed by Eustachius in 1552. Lancisi published these with his own notes in 1714 (see No. 512).

LUCKHARDT, Arno B. M.D., The William Beaumont Collection of the University of Chicago. Bul. Hist. of Med. (May) 1939, vii, 535.

MAGENDIE, Francois, (1783-1855) Mémoire sur le vomissement. Paris, Crochard, 1813.
Physiologists still consult Magendie's classical description of the physiology of deglutition and vomiting. A translation of the above is in Ann. Phil., London, 1813, i, 429-38.

MAGENDIE, F. An Elementary Treatise on Human Physiology. Translated by John Revere, M.D. (2 vol.) Harper and Brothers. New-York, 1844 (Fifth edition).

MAGENDIE, F. Summary of Physiology Translated by John Revere. Edward J. Coale, Baltimore, 1824.

MCCOLLUM, Elmer Verner (1879-) The newer knowledge of nutrition. New York, Macmillan Company, 1918.

MILLER, Genevieve. William Beaumont's Formative Years. Schuman's, New York, 1946.

MULLER, D. Johnson, B. Physiologie oder Lehre vondem Gesünden Zustand Bes Menschlichen Korpers fur Vertze und Nichtarzte. Maniz 1790.

MYER, Jesse S. Life and Letters of Doctor William Beaumont. C. V. Mosby Co. St. Louis 1912.

NICOLET Day on Mackinac Island. Bul. No. 6, Michigan Historical Commission 1916.

OWEN, Richard, F.R.S. Lectures on the Comparative Anatomy and Physiology of the Invertebrate Animals. Longman, Brown, Green and Longmans. London, 1843.

PASCHUTIN, Victor, Vasilyevich, (1845-1901) Einige Versuche mit Fermenten, Welche Starke und Rohrzucker in Traubenzucker verwandeln. Arch. f. Anat., Physiol. u. wissensch. Med., Leipzig, 1871, 305-84.

PASTEUR, Louis, (1822-95) Oeuvres de Pasteur, réunies par Pasteur Vallery-Radot. 7 vols. Paris, Masson, 1922-39.
One of the founders of bacteriology, Pasteur is at the same time one of the greatest figures in the history of medicine. His work on fermentation, the doctrine of spontaneous generation (which he finally exploded), virus diseases, and preventive vaccinations, were fundamental.

PAVLOV, Ivan Petrovitch, (1849-1936) Lektsii o rabotie glavnikh pishtshevaritelnikh zhelyoz. (Lectures on the work of the principal digestive glands. St. Petersburg, I. N. Kushnereff) 1897.
Pavlov made perhaps the greatest contribution to our knowledge of the physiology of digestion. Especially notable was his method of producing gastric and pancreatic fistulae for the purpose of his experiments. A translation of his description of the stomach pouch devised by him is in J. F. Fulton's Selected Readings in the History of Physiology, 1930, pages 170-74. His book was translated into English, a second edition appearing in 1910.

PROUT, William (1785-1850). On the nature of the acid and saline matters usually existing in the stomachs of animals. Phil. Trans. Roy. Soc., London, 1824, cxiv, 45-49.
Proof that the gastric juice contains free hydrochloric acid. Prout, of Guy's Hospital, London, is of importance as initiating the applications of chemistry to medicine and physiology.

REAUMUR, Rene Antoine Ferchault de. Sur la Digestion des Oiseaux. Memoires de l'Academic Royale, Paris, 1752.
Using a pet buzzard, de Reaumur succeeded in isolating the gastric juice and demonstrating its solvent effect on foods.

RICHERAND, A., Elements of Physiology. Translated by G. J. M. DeLys, M.D., W. E. Dean, New York, 1825.

ROLLESTON, George, M.D. (Linacre Professor of Anatomy and Physiology, Oxford) Address in Physiology. T. Richards. London, 1870.

ROLLESTON, George, M.D. Scientific Papers and Addresses, (vol. 1) Clarendon Press. Oxford, 1894.

ROSEN, George, M.D., The Reception of William Beaumont's Discovery in Europe. Schuman's, New York 1942.

RUBNER, Max, (1854-1932) Die Gesetze des Energieverbrauchs bei der Ernahrung. Leipzig and Wien, F. Deuticke, 1902.
Rubner's classical work on the influence of foodstuffs on metabolism. In it he introduced the term "specific dynamic action of the foodstuffs."

SCHWANN, Theodor, (1810-82) Versuche um auszumitteln, ob die Galle im Organismus eine für das Leben wesentliche Rolle spielt. Arch. f. Anat., Physiol. u. wissensch. Med., Berlin 1844, 127-59.
Proof of the indispensability of bile to digestion.

SPALLANZANI, Lazaro, (1729-99) Della digestione degli animali. In his "Fisica Animale," Modena, 1780, i, 1-275.
Spallanzani confirmed earlier doctrines of the solvent property of the gastric juice and discovered the action of the saliva in digestion. He stated that gastric juice can act outside the body and can prevent or inhibit putrefaction. He obtained gastric juice by tying a sponge on a piece of string, then allowing it to be swallowed.

SPALLANZANI, Lazaro. Dissertations Relative to the Natural History of Animals and Vegetables. London 1784.

SPENCER, Oliver H., Experiments and Observations on Digestion: An Inaugural Essay. Printed at the Office of the Gazette of the United States. Philadelphia 1802.

SPENCER, Oliver H., Experiments and Observations on Digestion. Office of the Gazette of the U. S. Philadelphia, 1802.

STENN, Frederick, M.D., William Beaumont. Pioneer Physiologist. Centennial of His Death (1785-1853) The Journal of the A.M.A. July 4, 1953, vol. 152, pp. 915-917, 1953.

STEVENS, Edward. Dissertatio physiologica inauguralis de alimentorum concoctione. Edinburgi, Balfour et Smellie, 1777.
First isolation of human gastric juice. Stevens was also the first successfully to perform an *in vitro* digestion, proving the presence in the gastric juice of the active principle necessary for the assimilation of food. An English translation is included in Spallanzani's Dissertation Relating to the Natural History of Animals, 1784.

STEVENS, Edward, Dr. Lectures on the Materia Medica. Dissertation, Experiment 23, (Experiments on Digestion) Edinburgh, 1777.

STENSON, Niels, (Steno.) (1638-86) Observations anatomicae. Lugduni Batavorum. J. Chouet, 1662.
Includes the first account of the excretory duct of the parotid gland (Steno's duct), discovered by Stensen.

STARLING, E. H. M.D., Physiology of Digestion, W. T. Keener and Co. Chicago, 1906.

THIRY, Ludwig, Über eine neue Methode den Dunndarm zu isolieren. Sitzungsb. der k. Akad, der Wiss., Wien, 1865, Math.-nat. Klasse, Abt. I, i, 77-96. Thiry-Vella fistula (see also No. 1081).

THOMPSON, William, M.D., A Practical Treatise on the Diseases of the Liver. Barrington and Haswell Phil, 1842.

TIEDEMANN, Friedrich, (1781-1861) and GMELIN, Leopold, (1788-1853) Die Verdauung nach Versuchen. 2 vols. Heidelberg, K. Groos, 1826-27. Confirmation of the work of Prout.

TODD, T. Wingate, M.D. Beaumont Lectures-Detroit Medical News, Vol. 21, No. 22, Jan. 28, 1930.

VAUGHAN, Victor, C., M.D. William Beaumont and His Work. Presidential Address, Thirty-first annual meeting of the Michigan State Medical Society at Mt. Clemons, June 4, 1896.

VELLA, Luigi (1825-86) Nuovo metodo per avere il succo enterico puro, e stabilirne le proprietá fisiologiche. Mem. R. Acad. Sci. 1st. Bologna, 1881, ii 515-38.
(See No. 1075)

WHITTAKER, A. H., M.D., The Beaumont Memorial on Mackinac Island. Bul. Hist. of Med. Vol. 28, No. 4, July 1954 p. 385.

WHITTAKER, A. H., M.D., The Doctor William Beaumont Memorial on Mackinac Island. Michigan History, vol. 37, no. 1, March 1953.

WHITTAKER, A. H., M.D., The Doctor William Beaumont Memorial on Mackinac Island. Jour. Mich. State Medical Society Vol. 52, No. 2, Feb. 1953, p. 165.

WILLIAMS, Meade C. Early Mackinac. Buschart Brothers, St. Louis, 1903.

WOOD, Edwin O. Historical Mackinac. The Macmillan Co. 1918, p. 11.

YOUNG, J. R. (1782-1804) An experimental inquiry into the principles of nutrition, and the digestive process. Philadelphia, Eaken & Mecum, 1803.
Young, one of the first American experimental physiologists, showed the solvent principle in the gastric juice to be an acid, but wrongly inferred that it was phosphoric acid. He also deduced the association and synchrony between gastric juice and saliva.

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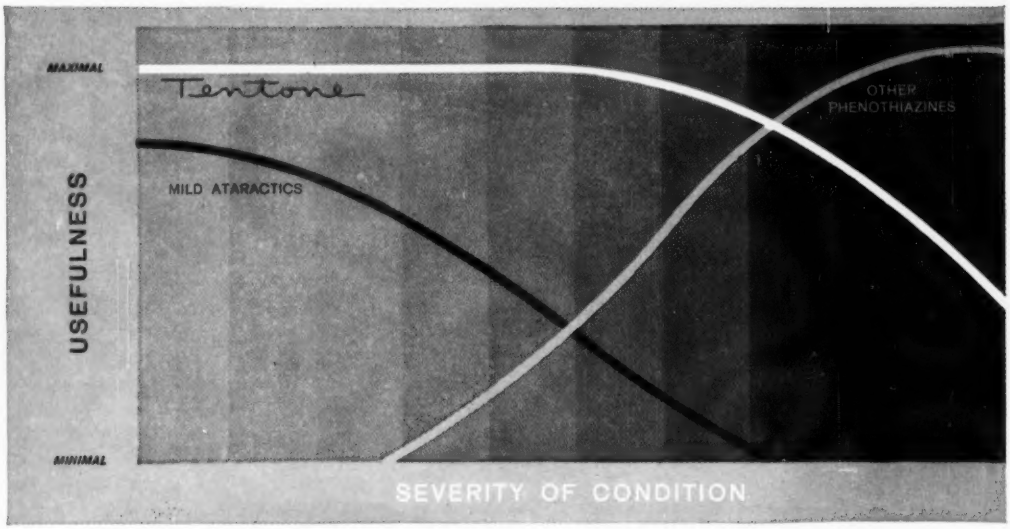

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Army Uniform of 1822

By Alfred H. Whittaker, M.D.
Detroit, Michigan

BECAUSE of the many portraits of Beaumont, contemporary and modern, most of which portray him in uniform, there has been a keen interest as to whether the uniforms are authentic in appearance.

The following proves the Keller portrait,* composite in design, to be accurate:

Letter from Charles Roos, Head Document Section, Armed Forces Medical Library, April 21, 1954.

Sections from the General Regulations for the Army dated 2 March 1821, dealing with uniform.

The Medical Officer was a Commissioned Officer in the Regular Army.

There were, at the period of Beaumont service, Staff Officers not having lineal rank. For purposes of pay and for other purposes "a regimental full surgeon" was equitable with a major or captain, a "post surgeon" or "assistant surgeon" with a captain or first lieutenant.

There were provisions for "contract surgeons," not members of the Regular Army, but Beaumont was commissioned in the Regular Army.

Uniforms

1. Dark blue is the national colour. When a different one is not expressly prescribed, all uniform coats, whether for officers or enlisted men, will be of that colour.

Chapeaux de bras and Caps

2. Chapeaux de bras will be of the following form:—the fan not less than six and a half, nor more than nine inches deep in the rear, and not less than fifteen, nor more than seventeen and a half inches, from point to point; the edge bound round with black binding, an inch wide. Loop, button, and cockade, black; the latter four and a half inches in diameter, with a gold eagle in the centre; the eagle one and a half inches between the tips of the wings.

Chapeaux, etc. Plumes, etc. Tassels, etc.

3. Caps of company officers will be of leather; bell crown; gift scales; yellow eagle, in front, three inches between the tips of the wings, with the number of the regiment cut in the shield; black leather cockade, one and a half inch in diameter, having a small yellow button in the centre, with an eagle impressed on it. Those of the enlisted men will be of leather, and of the same form as those prescribed for officers; brass scales.

4. Chapeaux de bras will be worn by all officers in uniform, whether of the line or the staff, except company officers. Caps will be worn by all company officers, when on duty with their companies, and by all enlisted men.

Plumes and Pompons

5. No plumes nor pompons will be worn with chapeaux de bras.

6. The company officers of artillery will wear yellow pompons, five inches in length; those of the light artillery to be white, with red tops. The officers of infantry will wear similar pompons, except in colour, which shall be white; those of the light infantry companies to be yellow. The officers of rifle companies will wear like pompons, except in colour, which shall be green.

7. Yellow worsted pompons, five inches in length, will be worn by the enlisted men of the artillery; those of the light artillery to be white, with red tops. The enlisted men of the infantry will wear similar pompons, except in colour, which shall be white; those of the light infantry companies to be yellow. The enlisted men of the rifle companies will wear like pompons, except in colour, which shall be green.

8. Pompons will be worn in front of the cap.

Tassels for Caps

9. Those of the officers of the artillery and rifle companies will be of gold cord and bullion. Those of the officers of infantry will be of silver cord and bullion.

10. Those of the enlisted men of artillery will be of yellow worsted; those of the enlisted men of infantry will be of white worsted; and those of the enlisted men of the rifle corps will be of green worsted.

156 Stocks, Epaulettes, Wings, Chevrons, Art. 65

Stocks

11. The stock will be of black leather, or silk; and nothing white shall be seen above it, round the neck, but the collar of the shirt.

Epaulettes

12. Major generals and brigadier generals will wear two gold epaulettes. Those of the major general will have on the gold ground of each strap, two silver stars; those of the brigadier general will have on each strap, one star. All other officers of the general staff will wear gold epaulettes, as follows:—colonels, lieutenant colonels, and majors, two; captains, one on the right shoulder, and subalterns, one on the left.

13. Colonels, lieutenant colonels, and majors, of engi-

*See photograph in color, on insert facing page 742.

neers, artillery, and rifle, will wear two gold epaulettes. Colonels, lieutenant colonels, and majors, of infantry, will wear two silver epaulettes. Captains of engineers, one gold epaulette on the right shoulder, and subalterns one on the left.

Wings

14. The wings of company officers of artillery and rifle will be of gold bullion. Those of company officers of infantry, of silver bullion.

15. The wings of the enlisted men of the artillery will be of yellow worsted; those of the enlisted men of infantry, of white worsted; and those of the enlisted men of rifle companies, of black worsted.

Chevrons

16. Chevrons will designate rank as follows:—captains, one on each arm, above the elbow; and subalterns, one on each arm, below the elbow. They will be of gold or silver lace, half an inch wide, conforming in colour to the buttons of their regiments or corps. The angle of the chevron to point upwards.

17. Adjutants will be designated by an arc of gold or silver fringe (according to the colour of their trimmings), connecting the extreme points formed by the two diverging lines of the chevron.

Chevrons, Coats, Art. 65

18. Sergeant majors and quartermaster sergeants will wear one chevron of worsted braid on each arm, above the elbow; sergeants and senior musicians, one on each arm, below the elbow; and corporals, one on the right arm, above the elbow. They will conform, in colour and material, to the braid with which the collars of their coats are trimmed.

Coats

19. The coat of the general staff will be single breasted, with one row of ten buttons, and with button-holes worked with blue twist in front, extending, at the top, to the seam of the sleeve, and not more than three inches long at the bottom. Standing collar to be united in front to the edge of the breast of the coat, not to rise higher than the tip of the ear, and always as high in front as the chin will permit, in turning the head. The cuffs not less than three and a half, nor more than four inches wide. The skirts faced with cloth of the same colour of the coat, the bottom of each not more than five, not less than three and a half inches wide, the length to reach the bend of the knee—the bottom of the breast and two hip buttons to range. One blind button-hole, five inches long, with a button, on each side of the collar. The blind holes of the front of the coat, in the herring-bone form, to run in the same direction with the collar from the top to the bottom. Blind holes, in the like form, to proceed from four buttons placed lengthwise on each skirt. A gilt star on the bottom of the skirt, two inches from the lower edge. The cuffs to be indented, within one and a half inch of the edge, with four buttons lengthwise on each sleeve, and blind holes to the three upper buttons, corresponding with the indentation of the cuff, on the centre of which indentation is to be inserted the lower button.

20. The coat of the engineers to be single breasted, with one row of ten buttons in front; the button-holes of blue twist, in the herring-bone form, as those prescribed for the general staff. Standing collar of black silk velvet, to be united in front to the edge of the breast of the coat; not to rise higher than the tip of the ear, and always as high in front as the chin will permit, in turning the head. The collar to be embroidered with a sprig of laurel encircling a star. The cuffs of black silk velvet, three and a half inches wide, to be indented, within one and a half inch of the edge, with three buttons lengthwise on each sleeve, at equal distances, the lower button to be placed on the centre of the indentation; blind holes of blue twist to proceed from the two top buttons in the herring-bone form, and corresponding with the indentation of the cuff. Three buttons, placed lengthwise on each skirt, with blind holes of blue twist, in the herring-bone form. The outer edge of the skirts faced with blue. Three buttons on the plait, one on a line with the hip, one within an inch of the bottom, and the other at the central point.

21. All general officers will be permitted to embroider their button-holes. Other officers of the general staff will be permitted to embroider the button-holes of the collar only.

22. *The coat of the medical officers shall correspond to that of the general staff, except in the collar and cuffs, which will be of black silk velvet. No embroidery is allowed them.*

Swords and Belts

23. The swords of the officers of the general staff, engineers, artillery, and rifle, will be yellow mounted, with a black or yellow gripe, and straight blades. Those of the officers of infantry will be of similar form, and will differ only in the colour of the mountings, which shall be white. *Medical officers will wear yellow mounted small swords.*

24. The general staff and engineers will wear black waist belts, with a yellow plate. All other officers will wear white waist belts, one and a half inch wide. Artillery and rifle officers will wear on the belt a yellow oval plate, in front, one and a half inch wide, with an eagle in the centre. Those of the infantry will wear a similar plate, except in colour, which shall be white.

Buttons

25. *The general staff and medical officers will wear plain gilt bullet buttons.*

26. The button of the engineers will be flat, of yellow metal, with only the device and motto heretofore established. The button of the artillery will be of yellow metal, cupped in form, three-fourths of an inch in diameter, with an eagle impressed on it, and the letter "A" in the shield thereof. The rifle button will be like that of the artillery, except that it will be more cupped, be only one half inch in diameter, and shall bear the letter "R" instead of "A." The button of the infantry will be like that of the artillery, except that it will be of white metal, and shall bear the letter "I" instead of "A."

The Furnishings of the Beaumont Memorial

By Paul L. Grigaut
Detroit, Michigan

TO GIVE a feeling of life and warmth to the interior of the Beaumont House, such was the aim of those who had the privilege of helping on the restoration of what has become one of the most delightful *maisons* of northern Michigan. There was an almost complete absence of those documents, inventories or letters, which might have helped us to recreate scientifically the physical environment in which Beaumont lived in the early 1820's at Fort Mackinac. But from all evidence, the furniture used in the Michigan settlements of the early 19th century was of the type familiar to the *habitants* and *voyageurs* from French Canada who frequented the region. A trip to French Canada enabled us to find a wealth of material which greatly facilitated our task. Solidly constructed, with reminiscences of the earlier French styles from Normandy or Picardy, the furniture we brought back was made of humble woods such as pine or birch.

The House furniture is primitive and graceful in its simple functional lines, with here and there remnants of the painted decoration characteristic of much of French Canadian furniture. St. Martin, Dr. Beaumont's famous patient, would feel quite at home in such surroundings. The benches, three-legged stools, trestle tables and blanket chests, are the work of carpenters rather than craftsmen; they are in any case perfectly adapted to the style of the house itself, as we see it in its present condition, with its strong pioneer flavor and charm.

FRENCH CANADIAN FURNITURE *(ca.* 1800-1820), BEAUMONT MEMORIAL, MACKINAC ISLAND, MICHIGAN
Above, writing desk, chair, chest. *Below*, table with individual compartments for dishes and eating utensils.

Furniture, alone, would not have been sufficient to evoke life in the Mackinac of the Beaumont period; a few rare maps of the Michigan territory, a few guns on the walls, fur blankets and wooden bowls give the Beaumont Memorial the homely touches without which no reconstitution would be complete.

Mr. Grigaut is Chief Curator, The Detroit Institute of Arts, Detroit, Michigan.

A Lawyer's Dicta on Doctors

By Felix Frankfurter
Washington, D. C.

THE first is he whom Osler called a "backwood physiologist" but "the first to make an important and enduring contribution to this science." William Beaumont was born in 1785 and he had one of those medical apprentice's educations in the metropolis of St. Albans, Vermont. Being an apprentice meant sweeping the floor, building the fire, filling prescriptions, accompanying his doctor on his rounds in his wide-flung country practice in that horse-and-buggy age, watching what he did and what he did not do. That's the way Beaumont got his medical education. He practiced, such practice as there was, and then the War of 1812 changed the course of his career. He became an assistant surgeon stationed in Plattsburg, New York. Finding medical life in the army congenial, as others have found it since for one reason or another, sometimes the wrong reason, he remained in the army and ended up at Fort Mackinac, Michigan, then a town of 500.

It was through my friend, Dr. Walter Cannon, that I came to know about Beaumont. But let me give you the starting point of his significance in the vivid account by Osler, who devoted a paper to Beaumont in a volume of essays entitled, "An Alabama Student," which I commend to you:

". . . The Fort was occupied by United States troops, who kept the Indians in check and did general police duty on the frontier, and the place had become a rendezvous for Indians and voyageurs in the employ of the American Fur Company. On this bright spring morning the village presented an animated scene. The annual return tide to the trading-post was in full course, and the beach was thronged with canoes and bateaux laden with the pelts of the winter's hunt. Voyageurs and Indians, men, women and children, with here and there a few soldiers, made up a motley crowd. Suddenly from the company's store there is a loud report of a gun, and amid the confusion and excitement the rumor spreads of an accident, and there is a hurrying of messengers to the barracks for a doctor. In a few minutes an alert-looking young man in the uniform of a U. S. Army surgeon made his way through the crowd and was at the side of a young French Canadian who had been wounded by the discharge of a gun, and with a composure bred of an exceptional experience of such injuries, prepared to make the examination. Though youthful in appearance, Surgeon Beaumont had seen much service, and at the capture of York and at the investment of Plattsburg he had shown a coolness and bravery under fire which had won high praise from his superior officers. The man and the opportunity had met. . . ."

Just as some famous case may immortalize the litigant's name in legal history, so Alexis St. Martion, the young French Canadian, is linked with the achievement of Dr. Beaumont. He was a lad of nineteen when "on a lovely June day in 1822" there occurred the incident which Osler described. Beaumont found several gunshots in the left hip of his patient, who became known as the fellow who had a "stomach with a lid." Soon Beaumont realized that he could see through the hole made by the gunshots. Having had Alexis under observation for a year, Beaumont said to himself, "By Jove, I can study the digestive process if I keep looking through this hole," and he did, from 1822 till 1834, when Martin finally left him. During all that period Beaumont, with intermittent periods when Alexis escaped to Canada and the fur company helped to bring him back, made a study of the gastric juice and digestive process, and with such illumination that his work has been compared to that of Claude Bernard.

There surely must have been earlier cases of gastric fistula, but Beaumont was the first to seize the opportunity for its study. And he wrote a book in 1838 with fifty-one conclusions. I am told by those who are entitled to speak on the subject that most of the conclusions are valid to this day. Why do I speak of Beaumont? Well, think of the enterprise of an army-post doctor at Fort Mackinac, 1822, in seizing the opportunity of extending the boundaries of knowledge, the care and tenderness with which he took Alexis St. Martin into his own home, and when the fellow got tired of being a guinea pig and escaped, the pertinacity of Beaumont over a year or two in trying

Excerpt from the George W. Gay Lecture, delivered at the Harvard Medical School, March 21, 1958.

Mr. Frankfurter is a Justice of the United States Supreme Court.

to get him back so that he could continue his physiological observations.

Then Beaumont decided to write a book to make his knowledge available. He realized that he needed wider knowledge than he had. For instance, he lacked chemical knowledge, so he turned to chemists who had it; he needed knowledge of physiology he was without, so he turned to physiologic studies in books written abroad and sought knowledge through correspondence. In short, Beaumont was not content to take this as a patient's case, treat it with all the care and tenderness with which doctors treat patients. He saw an opportunity to extend the area of knowledge beyond the range of his practice and the limits of his then competence. He had none of the training that you have had or will have. He had to improvise the means for fruitful inquiry. He had to improvise devices for enlarging the scope of contemporary learning. Finally, by patience and pertinacity, and I stress *pertinacity*—as important for a doctor as for a lawyer or a soldier in battle—with pertinacity he put on paper a book that, as I have indicated, lives to this day because of the observations and verifications and the thinking that he made upon a case that turned up by chance within his narrow practice and made only limited demands within the range of his professional duties.

ALEXIS ST. MARTIN

(Continued from Page 741)

taken him into his home when he was declared a pauper. But even the most enlightened man may find it difficult to show gratitude continually over many years. Alexis' wife, Marie Joly, seems to have taken a poor view of his employment as a human guinea pig, especially when it involved separation from his family. The reaction of his relatives to requests for an autopsy indicates how they felt about Alexis being regarded as a useful and interesting specimen. All this was natural. It is worth noting that Osler did not write unkindly of Alexis. He called him "that old fistulous Alexis" and "the old sinner," but these are not harsh words. Alexis had a part in Beaumont's great work and some small tribute should be paid to the memory of this sturdy and skillful voyageur from Lower Canada.

References

1. Anonymous: Alexis St. Martin. Canad. M. & S. J., 8:48, 1879.
2. Beaumont, W.: Experiments and Observations on the Gastric Juice and the Physiology of Digestion. Plattsburgh: F. P. Allen, 1833.
3. Cushing, H.: The Life of Sir William Osler. London: Oxford University Press, 1925.
4. Janowitz, H. D.: Newly discovered letters concerning William Beaumont, Alexis St. Martin, and the American Fur Company. Bull. Hist. Med., 22:822, 1948.
5. Lovell, J.: A case of wounded stomach. Medical Recorder of Original Papers and Intelligence in Medicine and Surgery, 8:14, 1825 (Author was Beaumont, not Lovell—see ibid. 8:840, 1825.)
6. Luckhardt, A. B.: Medical history collections in the United States and Canada. I. The Dr. William Beaumont Collection of The University of Chicago donated by Mr. and Mrs. Ethan Allen Beaumont of De Pere, Wisconsin. Bull. Hist. Med., 7:535, 1939.
7. Myer, J. S.: Life and Letters of Dr. William Beaumont. St. Louis: C. V. Mosby Co., 1912.
8. Myer, J. S.: A new print of Life and Letters of Dr. William Beaumont. St. Louis: C. V. Mosby Co., 1939.
9. Osler, W.: A Backwood Physiologist, in An Alabama Student and Other Biographical Essays. London: Oxford University Press, 1908.
10. Peckham, H. H.: Four letters of Alexis St. Martin. Bulletin 26 of the William L. Clements Library, University of Michigan, 1937.
11. Peckham, H. H.: The man with the hole in his stomach. Michigan Alumnus Quarterly Review, 46:249, 1940.

A 17th Century Chapel for Mackinac Island

By Eugene T. Petersen
Mackinac Island, Michigan

IN another structure of great historical significance to be erected this summer just across the road from the Beaumont Memorial, a Michigan dentist will have an important and unique role. The Mackinac Island State Park Commission, under its chairman, W. Stewart Woodfill, will construct a replica of a 17th century missionary bark chapel as part of its historical restoration program. The chapel will be located in Marquette Park below the Fort and perhaps not too far from where Father Claude Dablon, S.J., wintered on Mackinac Island in 1670. It is to his memory and to that of the other intrepid missionaries who risked their lives on the Michigan frontier that this chapel will be dedicated.

The museum staff of the Park Commission is endeavoring to recreate for the public the mood and feeling that must have prevailed at the time when these missionaries labored to convert the Indians to Christianity. Through the efforts of B. E. Luck, D.D.S., the interior of the chapel setting will have a ring of authenticity. The Lansing dentist has arranged for a gift from the Rt. Rev. Msgr. Edward J. Hickey, Detroit of a valued silver chalice that dates from the early 18th century. Dr. Luck has combed antique shops in Central Michigan to find the exact type of box that might have contained the holy accoutrements of these missionaries. He was able to find one constructed of pine which is very similar, it is believed, to the 17th century boxes of Dablon, Marquette, and Allouez. These items will be placed on a crude altar where also will hang a hand-carved crucifix.

This represents hours of labor for Dr. Luck, who for many years has pursued a hobby of woodcarving. Not only is his dexterity with the knife in evidence, but the carefully done crucifix reflects considerable historic research. The crucifix was carved from a piece of old Michigan cork pine taken from one of the oldest buildings in the State capitol. The cross was prepared from a piece of very old Michigan cedar obtained in Roscommon County.

Dr. Luck in his workshop.

Mr. Dirk Gringhuis, historical artist and JOURNAL cover artist for the Michigan State Medical Society, has done four religious paintings of a kind invariably carried by missionaries to illustrate graphically to the Indians the basic Christian beliefs.

The 25- by 15-foot chapel, which is scheduled for opening to the public about July 1, will take its place in the growing list of historic restorations on Mackinac Island.

Mr. Petersen is Director of Historic Projects, Mackinac Island State Park Commission.

Absorption of Amino Acids from an Isolated Loop of Human Intestines

By Aline Underhill Orten, Ph.D.
Detroit, Michigan

SINCE the epochal discoveries of Beaumont, digestive and secretory activities in the gastrointestinal tract have been widely explored. Presently, the general trend is toward the elucidation of the detailed biochemical mechanisms involved in secretion of digestive fluids and of the interrelationships among the foodstuffs in the intestinal tract. Less emphasis has been placed on the processes involved in absorption.

The intestine is now being recognized as an important organ in the nutrition of the normal individual as well as in pathological states and during convalescence. That there is an "intestinal phase" of nutrition beyond that of digestion itself is becoming increasingly evident. The small intestine stands as an intermediary between ingested food which has been digested and the entrance of these nutrients into the blood and/or lymph. Until this barrier is traversed, food nutrients cannot be said to be actually inside the body, nor can they become of physiological value. Furthermore, there exist a variety of biochemical mechanisms within the intestinal wall itself which chemically alter certain of the nutrients or which control their passage through this barrier. For example, monosaccharides are phosphorylated to form phosphate esters; fatty acids, monoglycerides and diglycerides are converted into triglycerides perhaps by way of phospholipids during their transfer; carotene is converted to vitamin A in the mucosal cell. It is the transfer of the split products of protein, the amino acids, with which we are concerned.

Protein nutrition is at present one of the most urgent world health problems and is also an essential part of therapy in prolonged parenteral feeding, fever, burns, trauma, postoperative convalescence and in some malignancies. Despite this importance, very little is known concerning the mode and the conditions affecting the transport of the digestion products of protein—the amino acids—across the intestinal barrier and the proportions of these delivered to the anabolic sites in tissue cells. It is known that for efficient synthesis of protein the necessary amino acids must arrive at the cellular template simultaneously. Moreover, the mechanisms operating in intestinal absorption of amino acids may well be involved in the transfer of amino acids across cell membranes in general.

Research on the absorption of amino acids has been fraught with difficulties. Among these have been the problem of suitable biological preparations for study and accurate analytical methods for determining the individual amino acids in very small quantities.

In an early study of amino acid absorption in our laboratories,[3,10] isolated blind loops of ileum in dogs and the starch column chromatographic procedures[6,8,13] for amino acid analysis were utilized. At this time there was observed a "preferential type of absorption" of some of the amino acids. Thus, isoleucine and leucine were always absorbed from mixtures to a greater extent than phenylalanine.

Subject.—In 1953 a unique opportunity for investigating amino acid absorption in the human small intestine was presented in the person of forty-eight-year-old Albert Drolet. "Al" had suffered for eight years from ulcerative colitis. An ileostomy was performed with the removal of the colon. Three months later, due to obstruction in the ileostomy orifice, the ileum was divided 14 inches proximal to the ileostomy; the distal bowel was closed and the proximal end brought to the skin as a fresh ileostomy. The isolated segment (a "Thiry loop") has been asymptomatic. A barium study of the loop revealed it to have a normal mucosal pattern. On inspection through the old ileostomy with a nasopharyngoscope, the

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The work reported in this paper was supported by Grant A-693, National Institutes of Health.

mucosa has appeared healthy without ulceration or polyps. About 150 ml. of solution can be placed in the loop without discomfort. During his convalescence in Detroit Receiving Hospital and with his permission, a few tests were conducted. These were then continued after his discharge. When the appropriate time arrived for the simultaneous removal of the stump of the colon and the blind loop, Al asked that the loop not be removed. He had learned to enjoy life in the laboratory as well as having come to realize that by so doing he was making a valuable contribution to medical science.

Courtesy *Detroit News*

Albert Drolet and the author with "automatic amino acid analyzer."

There are some remarkable resemblances between Al Drolet and Alexis St. Martin. Although a Detroiter by birth, Al is of French-Canadian extraction. Even though a bachelor, he, like Alexis St. Martin, has had difficulty at times remaining with the project. Persuasion and cajoling is sometimes necessary. He is fond of a "few beers"; and now and then, under emotional stress, it develops into more than "a few."

Method.—About the time Al joined the laboratory a new elegant chromatographic method[5] for the analysis of the individual amino acids became available and was being set up in our laboratory. It was adapted to the analysis of intestinal loop contents.[11] During the past year the efficiency of the method has been increased[4] and the analyses are now performed with the aid of an "automatic amino acid analyzer." The analyzer now in use was constructed by us and is patterned after the original[12] designed by Spackman, Stein and Moore at the Rockefeller Institute for Medical Research. Al, who assists some in the laboratory, has shown considerable interest in the construction of the instrument and in each test as the results appear visually on the recorder. An absorption test can be analyzed for its complete amino acid composition in twenty-four hours, whereas a week was required in our early work. Twelve years ago it would have required at least a month to have obtained, at best, a rather incomplete analysis.

Procedure.—The solution of amino acids whose absorption is to be determined is introduced into the loop through the stoma which is about 5 mm. in diameter. Gentle dilation with a series of small rubber catheters is necessary in order to permit the final easy insertion of a No. 14 French soft

rubber catheter with multiple openings. At the point of emersion, the catheter is thickened by means of a latex wrapping which produces a water-tight seal.

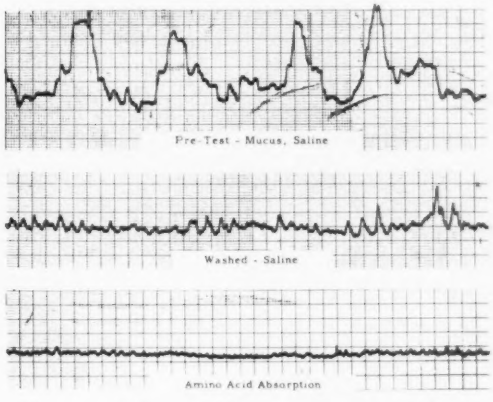

Fig. 1. Motility recordings of isolated ileal loop.

The loop is irrigated through the catheter with 0.9 per cent NaCl at 35°C. to remove excess mucus and debris. The test solution (50 ml.) is allowed to flow into the loop by gravity. Absorption periods are from one-half to three hours. A somewhat more physiologic technique, one of mechanically infusing the solution into the intestinal loop at a slow constant rate over the entire test period, is being investigated. This procedure more closely simulates the conditions normally present in the intestine. At the end of the test period the unabsorbed material is withdrawn into a clean syringe and the volume is noted. The loop is quickly washed with measured quantities of water, the washings added to the first sample withdrawn and the total is made to a known volume. After suitable treatment, the samples are frozen to await analysis. Some 500 such tests have been performed to date.

Motor Activity.—During selected tests, respiration, loop motility and intraluminal pressures are followed graphically by means of a Sanborn polyviso recorder. Large quantities of mucus evoke strong, well-spaced peristaltic waves which Al can feel and count. The pressure is felt as a "bump" immediately beneath the stoma. After or during a period of over-indulgence, mucus production is particularly prominent.

Fortunately, it is unnecessary to artificially evoke various emotional states because these appear naturally. Agitation with restlessness and frequent urination is accompanied by an increase in loop activity of an irregular pattern. It persists even during sleep.

During the absorption of amino acid mixtures in which the proportions of amino acids are similar and when Al is relaxed, movements in the loop are at a minimum—less than those which appear with the same volume of saline alone in the loop (Fig. 1). Some amino acids, particularly glutamic

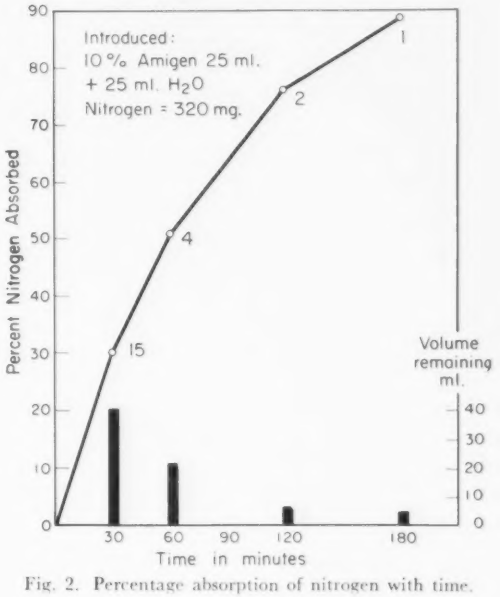

Fig. 2. Percentage absorption of nitrogen with time.

acid and tryptophan, when included in the mixture in large quantities or when placed in the loop alone stimulate a voluminous secretion of mucus which in turn produces strong peristaltic waves. It appears that both emotional and chemical factors influence the motor and secretory activities of the human small intestine.

Nitrogen Absorption.—Satisfactory procedures for the absorption tests were developed using a protein hydrolysate, Amigen,* as the test substance. In a time-study, 50 per cent of the nitrogen of Amigen was absorbed during the first hour (Fig. 2) and about 90 per cent by the end of three hours. In considering the effect of concentration on absorption[11] it was found that absorption increases with increasing concentration up to

*Supplied by Mead Johnson Co.

a point where the test solution is isotonic; it then levels off with further increasing concentrations. Thus efficiency of absorption is greater at lower concentrations.

The effect of NaCl and KCl on nitrogen absorption was studied in a series of eighty-three experiments. Amigen was diluted with physiological NaCl or KCl or water in six different proportions. The volume of fluid remaining at the end of the absorption period was always greatest with KCl as

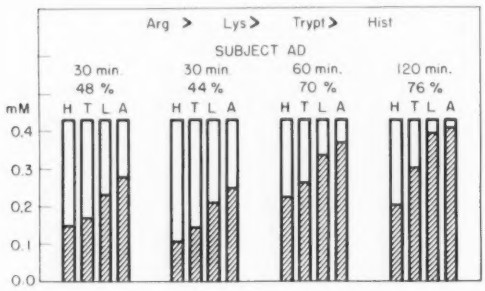

Fig. 3. Absorption from a mixture of the ten essential amino acids (equimolar).

the diluent, intermediate with NaCl and the least with water. However, the amount of nitrogen absorbed was not affected by the presence of either salt. These studies gave the necessary information on the best concentrations, time intervals and solvent media for the subsequent amino acid studies.

Absorption of Amino Acids.—Pure amino acids have been arranged in many combinations, beginning with pairs and extending to eighteen amino acid mixtures of varied composition. The amino acids are checked for purity by Dr. E. E. Howe, Merck Institute for Therapeutic Research. Some of the mixtures have been designed to simulate the composition of well-known natural proteins. Two mixtures are being tested therapeutically in the treatment of kwashiorkor.[1,2]

That all amino acids are not absorbed alike is evident.[7-9] The results of four absorption experiments at three time-intervals are given in Figure 3. The test mixture was composed of equimolar amounts of the ten essential amino acids, four of which are shown. These amino acids were not absorbed at the same rate. The absorption pattern is distinct; for example, arginine is absorbed considerably more rapidly than lysine, tryptophan, and particularly histidine. An examination of the pattern of an eighteen equimolar mixture (Fig. 4) shows that in this mixture these four amino acids still bear the same relationship to each other. In the pattern of absorption of the eighteen amino acid mixture it can also be seen that the ten essen-

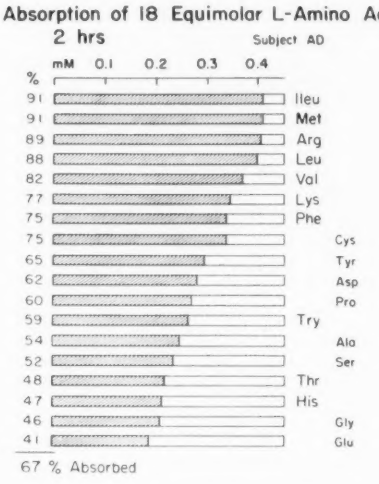

Fig. 4. Absorption of 18 equimolar L-amino acids over a two-hour period (Subject AD).

tial amino acids do not appear together in a group. Rather, they are distributed throughout the entire pattern. Some of the amino acids are absorbed only half as rapidly as others. In mixtures simulating natural proteins and in which the amino acids are not present in equimolar amounts, the absolute quantity of an amino acid absorbed in a given period of time is dependent upon its concentration in the mixture *and* upon its own characteristic rate of absorption. Current studies indicate that other individual nutrients and even single amino acids when present in a relatively large quantity may alter the absorption of the amino acids, e.g., glucose decreases total amino acid absorption but in no way alters the pattern of absorption.

The foregoing results confirm and extend the earlier studies in dogs showing that in man there too exists a characteristic pattern of absorption of the amino acids. This, in turn, may be reflected in the pattern of amino acids in the plasma after absorption and finally in that presented to the tissue cells for the formation of new protein. The fundamental importance of this observation is evident as well as the urgent need for further knowledge of the absorption pattern of amino acid under additional experimental conditions. The preferential absorption of amino acids, without obvious

relation to molecular configuration and physical properties, suggests that specific mechanisms for the absorption of amino acids exist in the intestine.

Conclusion

Thus, through a fortuitous set of circumstances —the timely development of superb analytic techniques, the availability of essential physical facilities and, of course most important, the appearance and co-operation of our congenial subject, Al Drolet—a unique study of amino acid absorption in man has been made possible. It is our hope and expectation that these studies will lead to a better understanding of human protein nutrition and of factors affecting the biosynthesis and maintenance of tissue protein.

References

1. Brock, J. F., and Hansen, J. D. L.: Kwashiorkor and protein malnutrition. A dietary therapeutic trial. Lancet, 2:355, 1955.
2. Brock, J. F., Hansen, J. D. L., and Howe, E. E.: The role of amino acids in kwashiorkor. Am. J. Clin. Nutrition, 4:286, 1956.
3. Johnston, C. G., and Orten, A. U.: Comparative absorption of amino acids from the intestine. S. Forum, 4:523, 1953.
4. Moore, S., Spackman, D. H., and Stein, W. H.: Chromatography of amino acids on sulfonated polystyrene resins. An improved system. Analytical Chem., 30:1185, 1958.
5. Moore, S., and Stein, W. H.: Chromatography of amino acids on sulfonated polystyrene resins. J. Biol. Chem., 192:663, 1951.
6. Orten, A. U.: Chromatography as applied to the study of the absorption of amino acids. J. Michigan M. Soc., 50:750, 1951.
7. Orten, A. U.: Gordon Research Conference on Food and Nutrition, 1958.
8. Orten, A. U., France, C. J., and Koizumi, K.: Application of partition chromatography to study of absorption of amino acids from the intestine. Fed. Proc., 9:211, 1950.
9. Orten, A. U., Gimbel, N. S., and Smith, A. H.: Absorption of mixtures of essential amino acids. Fed. Proc., 16:395, 1957.
10. Orten, A. U., Koizumi, K., France, C. J., and Johnston, C. G.: Comparative absorption of amino acids from the intestine. Fed. Proc., 10:390, 1951.
11. Orten, A. U., Wang, H. L., Gimbel, N. S., and Smith, A. H. Absorption of a protein hydrolysate from thiry loops in human subjects. Fed. Proc., 14:447, 1955.
12. Spackman, D. H., Stein, W. H., and Moore, S.: Automatic recording apparatus for use in the chromatography of amino acids. Analytical Chem., 30: 1190, 1958.
13. Stein, W. H., and Moore, S.: Chromatography of amino acids on starch column. Separation of phenylalanine leucine, isoleucine, methionine, tyrosine and valine. J. Biol. Chem., 176:337, 1948.

AMERICAN PHYSICIAN'S ART EXHIBIT

The Twenty-second Annual Exhibition of Art Works by American Physicians will take place June 8 through June 12 at Convention Hall in Atlantic City, according to announcement by Richard Gwartney, President of the American Physicians Art Association.

Held in conjunction with the annual convention of the American Medical Association, the show will include more than 550 works of art in oil, water color, sculpture, crafts, photography and lithography.

Participants and prospective exhibitors may obtain further information from L. A. Church, Regional Director, APAA, 18456 W. Grand River, Detroit 23, Michigan, and from Dr. Kurt F. Falkson, Secretary of the APAA, 7 East Street, New York 21, N. Y.

The Malabsorption Syndrome and Diarrhea

A *Panel Discussion*

Introduction

By David J. Sandweiss, M.D. (Moderator)
Detroit, Michigan

IN 1888, Samuel Gee[1] first described what is now known as the malabsorption syndrome. Today, seventy years later, there is still no clear definition and no clear classification of this disease.

In order to avoid possible confusion in nomenclature, I have asked the members of the panel to discuss the malabsorption syndrome in the light of the following classification: primary malabsorption and secondary malabsorption. Primary malabsorption includes coeliac disease in childhood, nontropical sprue or idiopathic steatorrhea in the adult, and tropical sprue. These are still considered to be diseases of unknown etiology. Secondary malabsorption, however, though it may mimic primary malabsorption, includes malabsorption syndromes arising secondary to disease entities affecting the small bowel

Several epoch-making contributions have been made during the last few years. They add much to our knowledge of the pathogenesis of the disease, provide simpler diagnostic procedures and make possible more successful therapeutic regimens. The gentlemen of the panel will discuss these newer developments.

One more introductory remark: The subject assigned to us reads "The Malabsorption Syndrome and Diarrhea." May I state that the subject of diarrhea will be discussed only as it pertains to malabsorption. Time will not permit the discussion of diarrhea, *per se*.

May I now introduce the members of the panel:

Dr. Henry L. Bockus of Philadelphia: Professor and Chairman, Department of Medicine and Gastroenterology, Graduate School of Medicine, University of Pennsylvania. President of the World Gastroenterological Association. Author of many original contributions in the field of gastroenterology. Editor and author of three Encyclopedic volumes on gastroenterology. Dr. Bockus was invited to the Ninety-third Annual Session of the Society especially to present the Andrew P. Biddle Lecture, which is scheduled for 2 P.M. this afternoon. I want to thank you, Dr. Bockus, for your kind participation in this panel.

Dr. David Adlersberg of New York City: Associate Attending Physician for Metabolic Diseases, The Mt. Sinai Hospital of New York. Assistant Clinical Professor of Medicine, College of Physicians and Surgeons, Columbia University, New York City. Dr. Adlersberg has made many important original contributions in the field of malabsorption. He is the editor of the volume on "The Malabsorption Syndrome," recently published—the first volume on this subject that has appeared in the United States.

Dr. Richard H. Marshak of New York: Dr. Marshak is Associate Radiologist of the Mt. Sinai Hospital, New York City. His roentgen studies of the small bowel and colon are widely recognized for their outstanding excellence. We are particularly appreciative of his presence, since he flew here from Washington, where he is in charge of a postgraduate course in "X-ray Examinations of the Small Bowel," given under the auspices of the American Roentgen Ray Society. Thank you, Dr. Marshak. It is, indeed, a privilege to have you here.

The other two members of the panel are, our own: Dr. Arthur R. French of Ann Arbor, Michigan, and Dr. Robert J. Priest of Detroit.

This Panel was held during the 93rd Annual Session of the Michigan State Medical Society, at the Sheraton-Cadillac Hotel, Detroit, Michigan, on Thursday, October 2, 1958, 11:30 A.M. to 1:00 P.M.

Dr. Sandweiss is Chief of Section on Gastroenterology and Attending Physician in Medicine, Sinai Hospital; Physician in Internal Medicine, Harper Hospital; Associate Physician in Medicine, Receiving Hospital; Assistant Clinical Professor, Wayne State University, College of Medicine, Detroit, Michigan.

Dr. French is Associate Professor of Internal Medicine at the University of Michigan Medical School. He is engaged in special studies of malabsorption in all of its phases: physiology, diagnostic procedures, and different therapeutic regimens. Today we are looking forward to a preview of the yet unpublished data of his more recent studies.

Dr. Priest is Associate Physician in the Gastrointestinal Division of Henry Ford Hospital. Dr. Priest and his associate, Dr. Joseph Rinaldo, Jr., have been conducting a special study of the comparative value of several absorption tests. They have had, also, considerable experience with the gluten-free diet. Dr. Priest is president of the Detroit Gastroenterological Association.

May I call first, on Dr. Adlersberg who will open the panel with a talk on "Pathogenesis of Primary Malabosrption." He will be followed by the other members of the Panel without further introduction.

Bibliography

1. Gee, S.: On the coeliac affection. S. Barthol. Hosp. Report, 24:17, 1888.

Pathogenesis of Primary Malabsorption Syndrome

By David Adlersberg, M.D.

New York, New York

PRIMARY malabsorption syndrome includes several clinical entities: Celiac disease of childhood, tropical sprue and non-tropical sprue. It must be strictly separated from the secondary malabsorption syndrome caused by gross involvement of the small bowel in such diseases as lymphosarcoma, amyloidosis and jejunoileitis, or resulting from extensive re-ection of the small bowel, or from liver or pancreatic disease.

According to the present concept, primary malabsorption syndrome is a genetically-transmitted complex metabolic disorder, the main facets of which are intestinal malabsorption and hematologic abnormalities.[2] In addition, there are many other metabolic disturbances including the metabolism of proteins, carbohydrates, lipids, electrolytes, water, and hematopoietic factors which are not necessarily related to the defects in absorption. Profound disturbances in genetically-controlled enzymatic chain reactions seem to affect intestinal absorption as well as the metabolism of the other factors mentioned above.

Based on the genetic anlage, the malabsorption syndrome may become manifest at various periods of life: In infancy or childhood as celiac disease, or later in life as tropical and non-tropical sprue. Actually, a number of adults with primary malabsorption syndrome present celiac disease in childhood. Distress of tropical climates, malnutrition and infections are probably important precipitating factors which will convert a predisposed person into a patient with manifest malabsorption syndrome. Whether wheat or rye gluten represents a dietary triggering mechanism or is more profoundly involved in the basic metabolic defect of primary malabsorption remains to be establi-hed.

In our climate, we are mostly concerned with one clinical entity of the primary malabsorption syndrome, non-tropical sprue. The outstanding symptoms of non-tropical sprue are diarrhea, weakness, weight loss, glossitis, abdominal distention and, not infrequently, hemorrhagic manifestations, tetany, parathe-ias and bone pain. The diagnosis is based on the presence of steatorrhea, anemia and exclusion of the diseases causing secondary malabsorption.[4] A characteristic pattern of the small bowel on x-ray examination ("sprue pattern"), flat glucose and vitamin A tolerance tests, negative Schilling test, hypocholesteremia, hypocalcemia, osteomalacia and certain findings in the peripheral blood and bone marrow support the diagnosis.[3,6,9]

Clinical evidence would suggest that the primary malabsorption syndrome is caused by a derangement or a defect in the small bowel. Since a number of patients with primary malabsorption

Dr. Adlersberg is Associate Attending Physician for Metabolic Diseases, The Mount Sinai Hospital; Assistant Clinical Professor, College of Physicians and Surgeons, Columbia University.

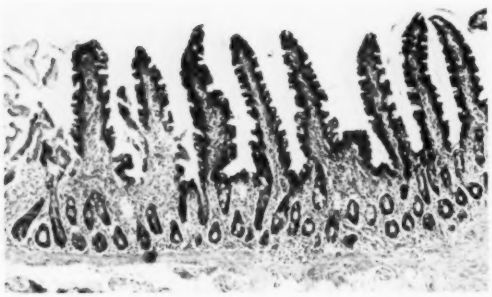

Fig. 1. Jejunal biopsy specimen. Note finger-like appearance of normal villi.[8]

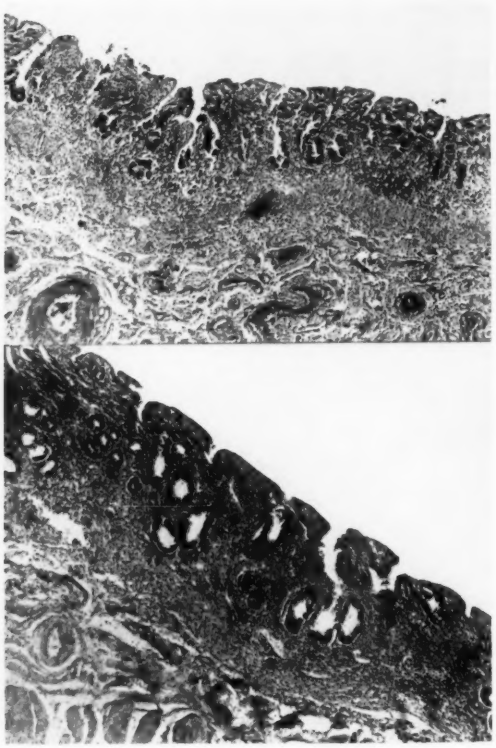

Fig. 3. Flattening, thickening, and clubbing of jejunal villi as seen in two autopsy cases with non-tropical sprue.[8]

syndrome present at autopsy and biopsy some morphologic change in the small bowel, it would appear that these changes are causally related to the clinical manifestations.[1,7,8,10] The pathologic changes in the small bowel seen in the advanced cases are characterized macroscopically and microscopically by marked atrophy of the small intestinal mucosa. In some instances, blunting and

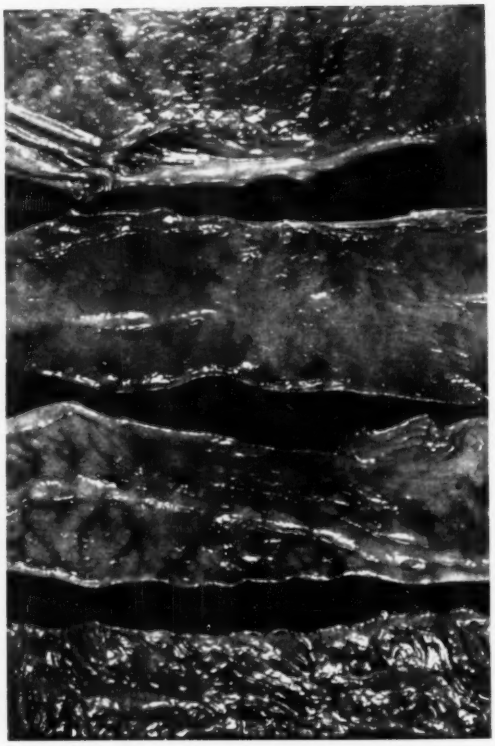

Fig. 2. Autopsy material showing atrophy and thinning of wall of the small bowel in a patient with non-tropical sprue.[8]

thickening of the villi; in others, almost complete atrophy of the villous layer, may be seen (Figs. 1-4). These changes obviously lessen the surface area available for absorption.

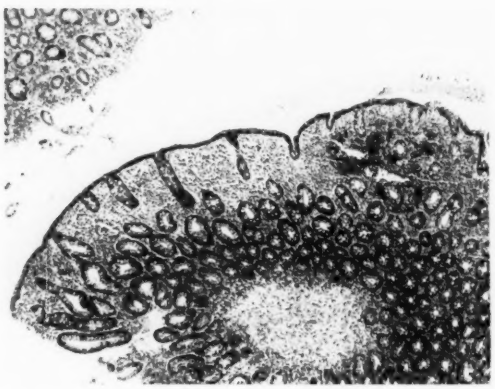

Fig. 4. Jejunal biopsy in a patient with non-tropical sprue of long duration. Note complete absence of villi and fusion resulting in a radical change of the architecture of mucosa.[8]

The changes in the small bowel may be the result of alterations in small bowel motility, stasis, absorption of abnormal products or perhaps lack of specific nutritional factors such as vitamin B_{12}, folic acid and other as yet unidentified compounds, or they might be the result of some deranged enzymatic mechanisms in the intestinal mucosa and thus be a part of the basic disturbance in malabsorption. Experience with small intestinal biopsies seems to indicate that the severe atrophy of the mucosa is, to a certain extent, characteristic of nontropical sprue. In tropical sprue, the changes observed by others and us seem to be milder in character.[5]

Patients with pernicious anemia, prolonged steatorrhea caused by pancreatic disease and with chronic diarrhea of various etiology do not exhibit the atrophy of the small intestinal mucosa seen in primary malabsorption syndrome. It must be emphasized that the same degree of atrophy of the mucosa may be seen in patients with non-tropical sprue in full remission, normal nutritional status, and in absence of steatorrhea.

The question arises then, as to how, during full remission, normal absorption can be maintained despite severe atrophy of the mucosa. Whether atrophy of the small bowel mucosa and malabsorption are actually causally related and whether the atrophy is at all reversible remains to be established.

Summary

Primary malabsorption syndrome includes several clinical entities which are probably varieties of the same inborn metabolic disorder. In addition to the absorption defect, other metabolic abnormalities are observed. It is not clear at present whether the characteristic changes of atrophy of the small intestinal mucosa seen at autopsy and in biopsies of patients with primary malabsorption syndrome are due to a specific enzymatic or nutritional defect or whether they result from some toxic or other influences. The use of the small intestinal biopsy represents a valuable technique of studying intestinal malabsorption.

References

1. Adlersberg, D., and Schein, J.: Clinical and pathological studies in sprue. J.A.M.A., 134:1459, 1947.
2. Adlersberg, David: Introduction. *In* The Malabsorption Syndrome. p. 3. New York: Grune & Stratton, 1957.
3. Adlersberg, David; Wang, Chun-I; and Bossak, Elaine T.: Disturbances in protein and lipid metabolism in malabsorption syndrome. *In* Adlesberg, David (ed.): The Malabsorption Syndrome. p. 32. New York: Grune & Stratton, 1957.
4. Bossak, Elaine T., Wang, Chun-I, and Adlersberg, David: Clinical aspects of the malabsorption syndrome (idiopathic sprue): Observations in 94 patients. *In* Adlersberg, David (ed.): The Malabsorption Syndrome. p. 112. New York: Grune & Stratton, 1947.
5. Butterworth, C.E., and Perez-Santiago, E.: Pathologic changes in jejunal biopsies from sprue patients; a preliminary report. Am. J. Digest. Dis. (N.S.), 2:659, 1957.
6. Cooke, W. Trevor: Water and electrolyte upsets in the steatorrhea syndrome. *In* Adlersberg, David (ed.): The Malabsorption Syndrome. p. 47. New York: Grune & Stratton, 1957.
7. Himes, Hillard W., and Adlersberg, David: Pathologic studies in idiopathic sprue. *In* Adlersberg, David (ed.): The Malabsorption Syndrome. p. 77, New York: Grune & Stratton, 1957.
8. Himes, Hillard W., and Adlersberg, David: Pathological changes in the small bowel in idiopathic sprue: Biospy and autopsy findings. Gastroenterology, 35:142, 1958.
9. Oxenhorn, Sanford; Estren, Solomon; and Adlersberg, David: Intestinal uptake of vitamin B^{12} in the malabsorption syndrome. *In* Adlersberg, David (ed.): The Malabsorption Syndrome. p. 58. New York: Grune & Stratton, 1957.
10. Shiner, Margot: Small intestinal biopsies by the oral route: Histopathologic changes in the malabsorption syndrome. *In* Adlersberg, David (ed.): The Malabsorption Syndrome. p. 99. New York: Grune & Stratton, 1957.

Absorption Tests in the Diagnosis of Intestinal Malabsorption

By Arthur B. French, M.D.

Ann Arbor, Michigan

THE demonstration of deficiency symptoms commonly due to failure of intestinal absorption may strongly suggest the diagnosis of malabsorption. However, in order to firmly establish the diagnosis it is necessary to demonstrate inability to absorb major components of the diet. Diagnostic tests determine the loss of food or a test substance in stool or its appearance in the blood stream or in the urine after it has been absorbed.

Direct determination of fecal fat content is the best single index of intestinal absorption. When this is measured by the van de Kamer method[6] normals average 3 gm. per day and seldom exceed 8 gm. per day. Loss of over 10 gm. per day is definitely abnormal. The van de Kamer method measures titratable fat, the total of free and esterified fatty acid. If fat is measured by weighing, as in the Saxon[5] or Fowweather[2] methods, other lipids including cholesterol are included and normal stool losses may be higher. For diagnostic purposes it is not necessary to relate fecal losses to dietary intake if intake of fat exceeds 75 gm. per day.

For following patients and for children whose dietary intake is small, it is important to express results in per cent of fat intake which appears in stool and to remember that while normal adults seldom lose more than 10 per cent or at most 15 per cent of ingested fat in the stool, children less than a year old may lose up to 15 per cent and children less than six months old, up to 25 per cent of ingested fat. Fecal fat losses in all our patients with untreated primary malabsorption have been greater than 12 gm. per day or 13 per cent of intake. Indeed, except for two patients with relatively quiescent celiac disease, they have exceeded 20 gm. per day or 30 per cent of intake, so separation of normal from abnormal is excellent.

In order to smooth out day-to-day variations in stool volume, it is desirable to perform the analysis on a three-to five-day collection. At times the weight of fat in stool is expressed in relation to dry weight of stool in an effort to avoid the necessity of accurately timed and complete collections. Since dry bulk of stool increases along with fecal fat in sprue, this method of expressing results is insensitive and does not satisfactorily separate normal from abnormal patients.

Since fecal fat analyses sometimes are not easily available, it is often necessary to use less satisfactory indices of intestinal absorption. The nutritional state of the patient, signs of specific deficiency states such as tetany, hemorrhagic tendency . . . and laboratory evidence of these deficiencies such as low calcium, prothrombin, hemoglobin, albumin, cholesterol or carotene levels in blood provide evidence suggestive but not diagnostic of malabsorption. These signs indicate that further study is necessary, but in each case there are other disease states in which the abnormality is found. Since they are really indices of general or specific nutritional deficiencies, rather than direct indices of absorption defects, they are often absent in mild and recently acquired absorption defects. The presence of a number of these signs makes the likelihood of malabsorption high. The combination of low cholesterol (below 100 mg. per 100 ml.) and low albumin (below 3.5 gm. per 100 ml.) is very strongly suggestive of malabsorption.

Fecal losses may be roughly evaluated by gross and microscopic examination. Most fatty stools float but so do many others. Many are greyish and bulky but some are loose and watery. Increased meat fibers, starch granules and fat globules are found on microscopic examination in about 75 per cent of cases with significant malabsorption, but both false positives and false negatives occur. The reliability of the Sudan stain or fecal fat may be somewhat increased by heating the stool suspension with glacial acetic acid before adding the alcoholic solution of Sudan IV.

After administration of a test substance, more reliable indices of absorption can be obtained. Blood curves give evidence concerning rate of absorption rather than total absorption and they

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do not quantitatively reflect losses as measured in stool. In general, they serve better as screening tests to determine the presence or absence of malabsorption. They are rather unsatisfactory for quantitation of the degree of malabsorption or for following a patient's progress. However, as screening tests the vitamin A tolerance test or the I^{131} triolein blood curves provide the most reliable information available in the absence of fecal fat analyses. Vitamin A should be given as the palmitate ester since this is more readily absorbed than the alcohol and it is also better absorbed in the presence of fat such as olive oil. We use 5000 I.U./kg. of vitamin A palmitate in 0.5 ml. olive oil per kg.; 90 per cent of normals show a rise to over 500 I.U./100 ml. of blood at 4 to 6 hours Patients with primary malabsorption rise less than 250 I.U./100 ml. before therapy. However, 10 per cent of normals have flat curves and in secondary malabsorption, particularly after gastrectomy, there are both falsely high and falsely low curves.

I^{131} triolein blood curves give results very similar to those with vitamin A curves, but glucose tolerance curves are distinctly less reliable. Although most patients with primary malabsorption have flat curves, so will many normals, while several types of secondary malabsorption are accompanied by high glucose curves.

Where an isotope unit is available for thyroid tests it will be convenient to use I^{131} triolein blood curves, while if this is not available the vitamin A methods of May, Blackfan et al[3] or of Paterson and Wiggins[4] are not difficult and are fairly widely available.

Fecal radioactivity determinations after I^{131} triolein do not, according to our studies, separate normals from abnormals in borderline cases as well as the blood curves. However, they provide a more nearly quantitative index of fat losses than do blood curves and are preferable for following the patient's course.

The d-xylose test,[1] measuring the output of d-xylose in a five-hour urine collection after giving a 25 gm. test dose, is gaining popularity. The chemical determination is almost as simple as that of blood I^{131} or vitamin A, and no venipuncture is required. However, while it has been shown to separate patients with clear cut primary malabsorption from normals, it has not yet been shown to be a quantitative index of steatorrhea or to separate borderline abnormals from normals. The most common type of malabsorption is that following gastrectomy, while that occurring with regional enteritis is about as common as primary malabsorption. It is in these diseases that different tests are particularly likely to give divergent results. The same can be said of the serum carotene level. It has been shown to be a rough screening test but it has not been shown at what level of steatorrhea it becomes abnormal. In other words we do not know whether it shows up all patients with steatorrhea or only the severe ones. We also do not know how useful the test is in secondary sprue, in post-gastrectomy steatorrhea or in pancreatic insufficiency. On theoretical grounds it is an index of nutrition, not of absorption. Once these areas of ignorance are clarified we will know how much we can depend on d-xylose and serum carotene tests.

Thus chemical fecal fat determinations on a three- to five-day collection provide the most reliable index of malabsorption. When this is not available, vitamin A or I^{131} triolein blood curves after a test meal provide reasonably good separation between normals and abnormal patients. Fecal I^{131} determinations are useful for following patients. The d-xylose is promising but only partly proved.

References

1. Benson, J. A., Jr., Culver, P. J., Ragland, S., Jones, C. M., Drummery, G. D., and Bougas, E.: The d-xylose absorption test in malabsorption syndromes. New England J. Med., 256:335-339, 1957.
2. Fowweather, F. S.: The determination of the amount and the composition of the fat of faeces. I. Investigation of a "wet" method and comparison with the "dry" methods. Brit. J. Exper. Path., 7:7-14, 1926.
3. May, C. D., Blackfan, K. D., McCreary, J. F., and Allen, F. H., Jr.: Clinical studies of vitamin A in infants and in children. Am. J. Dis. Child., 59:1167-1184, 1940.
4. Paterson, J. C. S., and Wiggins, H. S.: Estimation of plasma, vitamin A and vitamin A absorption test. J. Clin. Path., 7:56-60, 1954.
5. Saxon, G. J.: A method for the determination of the total fats of undried feces and other moist masses. J. Biol. Chem., 17:99-102, 1914.
6. van de Kamer, J. H.; ten Bokkel Huinink, H.; and Weyers, H. A.: Rapid method for determination of fat in feces. J. Biol. Chem., 177:347-355, 1949.

The Roentgen Findings in the Malabsorption Syndrome

By Richard H. Marshak, M.D.
New York, New York

IT has long been recognized that disorders of absorption from the gastrointestinal tract may be reflected in abnormalities of the radiographic pattern of the small intestine. These changes have heretofore been considered nonspecific since they can be found in a variety of conditions, some associated with malabsorption, such as sprue, Whipple's disease, lymphosarcoma, and others having no relation to malabsorption such as hookworm disease, hyperthyroidism, allergy and emotional disturbances. These roentgen findings, namely dilatation of the bowel lumen, segmentation of the barium column, hypersecretion, motility changes and alterations in mucosal markings, have been included under the terms "deficiency pattern" and "disordered motor function," and in themselves have not been diagnostic of any particular physiologic disorder or disease entity. It is true that some degree of dilatation, segmentation and hypersecretion may occur in many unrelated diseases; however, when the changes are marked and occur in particular combinations, they are usually found only in association with certain malabsorptive states, in particular sprue, lymphosarcoma and Whipple's disease. The roentgen findings, therefore, are more specific than hitherto suspected and sufficiently characteristic to be of diagnostic value.

The term "malabsorption syndrome" has recently been applied to diseases which are characterized by alterations in absorption of nutrients from the intestinal tract. Fats, because of the insolubility in acqueous solutions, are relatively difficult to absorb. It follows, therefore, that difficulties which patients have with intestinal absorption are often characterized by excessive amounts of fat in the stool.

The causes of symptomatic steatorrhea can be classified into three main groupings: (1) idiopathic steatorrhea, (2) secondary steatorrhea (organic lesions of the gastrointestinal tract), and (3) pancreatogenous steatorrhea. Since these three groups represent the majority of cases with symptomatic steatorrhea, the roentgen findings encountered in these cases will be described.

Idiopathic Steatorrhea (Sprue)

Dilatation.—Dilatation of the lumen of the small intestine is one of the most important and constant findings in sprue. Some of the features of the sprue pattern are seen in other disorders, but in none is dilatation more striking or constant than that associated with sprue.

Dilatation is usually best visualized in mid and distal jejunum. It is not as common in the ileum as elsewhere in the small intestine. On occasion, the entire small intestine is affected. The dilated loops are generally long, tortuous in course and have pliable walls. The valvulae conniventes are prominent.

The degree of dilatation is variable and often a single intestinal segment may manifest varying degrees of dilatation during the course of a single roentgen study. In general, it appears to be related to the severity of the disease and is most marked in the advanced cases.

The large intestine may show dilatation which can be pronounced.

Segmentation.—Segmentation is the second most frequent finding in the sprue pattern.

The term segmentation in this study has been restricted to indicate only those masses of barium which are large, clearly separated from the adjacent clumps and usually within dilated bowel segments containing excessive secretions.

Segmentation is most marked in the ileum and observed best in the more advanced cases. Two forms are noted, immediate and delayed. The more common form is delayed segmentation, i.e., segmentation occurring in intestinal segments in the process of evacuation, and ranging from mild to moderate severity. The less common immediate segmentation, occurring in more severe cases, is seen as soon as the barium enters the small intestine and persists throughout the study. The differ-

Dr. Marshak is Associate Radiologist, Mt. Sinai Hospital, New York, New York.

ence between the two forms of segmentation may be accounted for by the amount of secretions within the intestinal tract. In those patients with markedly increased secretions, segmentation appears to be immediate.

Between the segmented clumps of barium, worm or string-like strands of barium are often noted. These seemingly collapsed intestinal segments are usually associated with segmentation. They are inconstant and vary from film to film, appearing to be due to altered motor activity of the bowel segment, or to incomplete filling as the barium stream passes through a secretion-filled intestinal loop.

A faint, irregular stippling of residual barium may be seen in the jejunum as the barium leaves this area. This is a normal finding. In sprue, however, the residuum may present a coarse, mottled, amorphous appearance, somewhat resembling melting snowflakes. This has been called fragmentation or scattering and is usually associated with segmentation and increased secretions.

Hypersecretion.—An excessive amount of secretion in the intestinal tract is a constant phenomenon in most cases showing the sprue pattern and especially in those with marked segmentation. Air fluid levels may be seen occasionally during the course of the study. In contrast to the usual homogenous appearance of the barium in the normal small intestine, the barium in sprue has a coarse, granular appearance with areas of flocculation dispersed irregularly in the barium-filled loops.

Thickening of the Folds.—When dilatation of the small intestine occurs, particularly in the jejunum, whether due to mechanical or functional changes, the mucosal folds rather than appearing flattened become prominent and seemingly enlarged. In sprue, for example, the valvulae conniventes in the dilated jejunum appear remarkably conspicuous. This is in contrast to the usual autopsy findings of a smooth atrophic mucosa. The dynamic state of the bowel is not reflected in the postmortem findings and it would appear that prominent mucosal folds produced by an active muscularis mucosa are lost.

In lymphosarcoma or Whipple's disease, the thickening of the mucosal folds in the small intestine is more readily understandable. The actual infiltration of the mucosal and submucosal layers of the bowel wall and obstruction of the lymphatics produce thickening, stiffening and rigidity of the infiltrated area with accompanying reactive edema.

Transit Time.—Transit time refers to the interval during which the barium traverses the entire small intestine and enters the cecum. The average time in adults has been found to be approximately three hours; however, a wide range of normal variations is seen. In most patients with sprue, transit time varies from three to five hours. Occasionally, it is less. Somewhat more frequently it can be slightly prolonged. Rarely is there marked prolongation of transit time. Marked prolongation of transit time in sprue has often been reported. That we have not observed this finding, however, may be accounted for by the fact that in utilizing larger quantities of barium than are generally employed, the tendency to puddling of barium in a single dilated segment can be overcome.

Moulage Signs.—This term refers to the appearance of small intestine in sprue which resembles a tube into which "wax has been poured and allowed to harden" occasioned by apparent effacement of the mucosal folds. It is most frequently noted in association with hypersecretion and segmentation.

The Appearance of the Small Intestine in Sprue Following Therapy.—The impression of improvement in the small intestinal pattern in patients treated for sprue must be evaluated with care because marked variations in appearance of the small intestine occurring from study to study or even during the course of a single examination may be seen. In this study, there is a discrepancy between the degree of clinical improvement under therapy and the roentgen changes observed. In only a few instances did the sprue pattern lessen in intensity or disappear.

Secondary Sprue

Lymphosarcoma.—Most cases of lymphosarcoma of the small intestine do not produce the sprue pattern nor are they associated with the clinical finding of malabsorption. Occasionally, there is a diffuse infiltration of the submucosa of the small intestine and mesenteric lymphatics producing a malabsorption syndrome with steatorrhea, excessive fatty acids in the stool and other laboratory evidence of malabsorption.

In six of the forty-two patients with lymphosarcoma involving the small intestine this situation

prevailed. The roentgen findings in these six patients are of interest. In four, the sprue pattern was seen with segmentation, dilatation, hypersecretion, and scattering. In two patients, in addition diagnosis of Whipple's disease was made after histologic study. The roentgen findings in these patients were those of the sprue pattern. In the fourth patient, who had diarrhea without signifi-

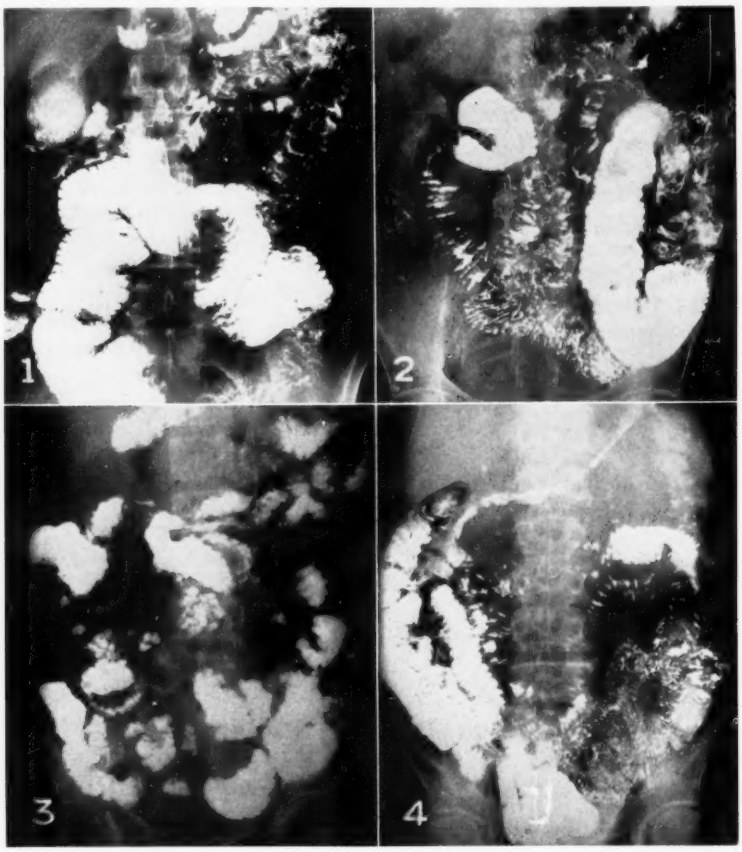

Fig. 1. Moderate dilatation of the midportion of the jejunum. There is no evidence of rigidity. The loops are pliable, distensible with no evidence of an inflammatory process.

Fig. 2. Delayed segmentation and fragmentation. The segmented loops are dilated, large and contain excess fluid.

Fig. 3. Immediate segmentation involving the entire small bowel. There is complete absence of the normal valvulae conniventes (moulage sign).

Fig. 4. Delayed segmentation, fragmentation, minimal dilatation.

to the above findings, there was thickening of the bowel wall suggestive of tumor infiltration. The sprue pattern was seen only in those patients with marked steatorrhea and increased fatty acids in the stool.

Whipple's Disease.—Four patients were studied. In three, there was clinical evidence of severe malabsorption and after prolonged observation, the cant steatorrhea or other evidence of malabsorption, the small intestine appeared normal radiologically. Again, it is noted that the sprue pattern was seen only in the presence of marked steatorrhea and excessive fatty acids in the stool.

Pancreatogenous Steatorrhea

In contrast to the marked alterations in the appearance of the small intestine in primary and in

some cases in secondary sprue, the roentgen findings in pancreatogenous steatorrhea are essentially normal. On occasion, minimal dilatation of the small intestine may be seen. The lack of changes in the small intestine in pancreatic disorders associated with steatorrhea and malabsorption has been documented in the literature.

Summary and Conclusions

The mechanism of production of functional changes in the small intestine has been little understood and all variations in the appearance of the small bowel which were considered functional were grouped under the term "deficiency pattern." It has been recognized for many years that deficiency no longer is the basic factor responsible for the changes observed. The continued use of this term has prevented the recognition of specific patterns within this all-inclusive group.

Our studies suggest that the severe functional alterations of sprue are usually associated only with marked steatorrhea (fatty acids) and are most often seen in idiopathic steatorrhea. The sprue pattern may also be seen with a slightly lessened intensity in secondary steatorrhea (Whipple's disease and lymphosarcoma). It is suggested, therefore, that the term "sprue pattern" be used to designate these changes.

When minimal functional changes occur in the small intestine, they may be caused by malabsorptive disease; however, these changes are not specific and can also be caused by other diseases unrelated to malabsorption. A differential diagnosis cannot be made from the roentgen findings alone, but when the roentgen changes are evaluated in the light of the clinical abnormalities, the significance of the functional abnormalities may become clear.

Primary Malabsorption

Clinical Features and Differential Diagnosis

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OBVIOUSLY, in the time allowed, this can be nothing more than a brief outline—a panorama of the field.

By definition, we are discussing that group of patients with intestinal malabsorption, not the result of any primary known disease. Primary diseases of the small bowel and its mesentery (enteritis, tuberculosis, et cetera), short small intestine, pancreatic insufficiency, known constitutional diseases secondarily affecting absorption, such as collagen diseases, sarcoid, amyloid, diseases of the liver . . . are excluded. In other words, we are discussing a syndrome, the result of intestinal malabsorption and assimilation of *unknown etiology.*

Symptom Configuration.—On the basis of mechanism of symptoms, the clinical features may be fitted into two categories: The first are those which are the result of the effect of unabsorbed food-stuffs on the organism, including the symptoms secondary to the irritation which unabsorbed foods and their by-products may cause. The primary symptom here is the change in bowel habit and the character of the feculent discharges. Characteristically, the stools are large, mushy, rancid and foul-smelling, often containing gas and some mucus. Varying degrees of diarrhea, flatulence, and bloating accompany the exacerbations.

The second group of symptoms are those which may be attributed to deficiencies of various vital elements as a result of malabsorption and malassimilation. It may be mentioned at the onset that the appetite is often preserved but weight loss may be striking. Protein losses are often expressed first as hypoalbuminemia giving rise to edema. The loss of calcium and phosphorus may be giving rise to muscle irritability, tetany and changes in bone texture with symptoms the result of hypoprothrombinemia, and the various changes secondary to vitamin B Complex deficiencies including neuritis, pellegra, glossitis, and stomatitis. Symptoms the result of anemia may be present, par-

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ticularly weakness, edema and lassitude. Electrolyte deficits particularly potassium and sodium, may cause additional malaise. Nervous irritability, nervous hypersensitivity, depression and hysteroid manifestations are not too rare.

One may well inquire: how common is the primary malabsorption syndrome? In its advanced stage when readily recognized, the syndrome is relatively rare. For some reason or other, it does not occur in oriental persons. If one includes latent or very mild manifestations, it is likely that the condition may not be rare.

History and Course of the Disease.—The disease often manifests itself before the age of five or after the age of twenty-five. Sant Agnese posed the query several years ago of why this should be so; before the age of five, the syndrome is that of Gee's Celiac Disease and a moderate number of patients seen in adult life give a history of having had a similar illness in early childhood. No one has explained satisfactorily the long latent period which so often occurs in these cases. One must keep in mind that there is probably some type of hereditary constitutional defect, or hypersensitivity or that the disease in many instances is familial, and often affects more than one sibling.

Another clinical feature of interest is the apparent remissions and relapses which may occur spontaneously. Aggravations may be related to the eating of excessive fats, the ingestion of starches and sweets of various types, emotional stress, pregnancy, infection, dietary deficiency or the taking of antibiotics.

Diagnosis.—In the screening of the patient suspected of having a primary malabsorption syndrome, certain characteristics may be noted on physical examination. Many have claimed that one seldom sees the disease in patients with dark hair. Others comment on the rather sparse hair of the person afflicted and on the tendency toward increased skin pigmentation. A triangular facies has been described by some authors. One may note mucous membrane and skin changes as a result of the anemia or vitamin B and C deficiencies. Clubbing, edema and low blood pressure are not rare. The abdominal examination is often characteristic, particularly during a relapse; the abdomen usually is quite markedly distended and has a characteristic doughy feel.

A quick screening available to all practitioners will usually cause one to arrive at a working diagnosis of the malabsorption syndrome. This includes the gross and microscopic examination of the feces demonstrating the large, fatty stools which are highly rancid. The hemogram may show an anemia which may be macrocytic or microcytic. The blood chemical studies may well demonstrate hypoalbuminemia, hypocholesterolemia, hypoglycemia and decreases in the concentration of calcium and prothrombin. In the majority of cases, the roentgen configuration of the primary malabsorption syndrome is highly suspicious or almost pathognomonic. With this combination of findings, or with positivity of some of these findings, one may then procede with the specific absorption tests just described for the establishment of a definitive diagnosis.

In outlining the *differential diagnosis,* the following are briefly discussed:

1. Tropical sprue *versus* non-tropical sprue.
2. Pancreatogenic steatorrhea *versus* the steatorrhea associated with primary malabsorption.
3. Primary *versus* secondary malabsorption.
4. The differential diagnosis of chronic diarrhea.

In *tropical sprue* as compared with the so-called "primary malabsorption syndrome," provocative initiating factors such as chronic severe enteric infection and infestations and subnutrition seem to play a much more important role. Stools are usually more liquid and more frequent; they are likely to be more fermentative and gassy. The anemia is much more often macrocytic with a megaloblastic bone marrow and at times with spinal cord symptoms. The occurrence of sore mouth with glossitis and stomatitis is more striking. The roentgen nutritional deficiency pattern characteristic of intestinal malabsorption is not as striking in tropical sprue. There seems to be a lesser incidence of tetany and of bleeding and a less frequent finding of hypocalcemia, hypoalbuminemia and bone demineralization. In tropical sprue, contrasted with primary malabsorption, response to folic acid and to liver extract and B_{12} is usually striking and recovery may be complete with these remedies. Incidentally, the incidence of the tropical variety of sprue is decreasing in many parts of the world.

Pancreatogenic Steatorrhea.—More consideration is given to steatorrhea of this origin in patients

in the older age groups, since either neoplasm or chronic pancreatitis is usually the cause. Weight loss may be very marked and usually the diarrhea is less severe, stools less watery and gaseousness less striking. Ordinarily, there is less fermentation in the stool, and it is less rancid in odor. Usually distention of the abdomen is less prominent than in the sprue-like states. The screening tests are more likely to show a hyperglycemia and secondary nutritional deficits are less common. Microscopically, the stools frequently contain more neutral fat and muscle fibers than is seen in the primary malabsorption syndrome. The differentiation is quite easily made when fat-nitrogen balance studies, secretin and starch absorption tests are carried out and the differentiation is also aided by the labeled fat absorption tests. Evidence of pancreatic disease may be supplied by x-ray and serum enzyme studies.

Primary versus Secondary Malabsorption.—Malabsorption and faulty assimilation may accompany many diseases of the small bowel and its mesentery or it may accompany a decrease in the absorptive surface of any cause (resections, fistulas, et cetera). Bowel symptoms, nutritional deficits and, at times, roentgen abnormalities may closely simulate the features of primary malabsorption. Almost always, however, distinctive diagnostic features of the primary disorder are sufficiently clear to permit of the organization of proper therapy. The minutae of differential diagnosis cannot be attempted here.

Differentiation of Chronic Diarrhea.—Emotional diarrhea and allergy have importance in this discussion. Neither of these conditions is associated with a great degree of steatorrhea. The diarrhea is likely to be more precipitous and there is almost never any associated nutritional deficits.

Finally, it may be stated that the diagnosis of the well-established case of primary malabsorption syndrome may be suspected as a result of the ordinary clinical analysis and proved without much doubt with the addition of x-ray and the newer absorption tests. In the very mild cases, the diagnosis may remain in doubt for some time and with every available tool, including the new absorption tests, jejunal biopsy, and x-ray, there may remain an element of doubt until the condition worsens or a striking relapse occurs.

Therapy of Primary Malabsorption

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MANAGEMENT of patients with primary malabsorption has been difficult in past years. The object has been to accomplish clinical improvement by correcting the presenting symptoms of nutritional malabsorption, anemia, vitamin deficiencies, hemorrhagic disorders, osteomalacia, and diarrhea. The former empiricism has been superceded by some progress toward a rational therapy.

The most recent progress in the therapy of sprue has been in its dietary management. Following observations in Holland[3,12] after World War II, that children with celiac disease improved when wheat flour or rye flour were excluded from their diets, clinicial trials in England and in this country[1,5,10] have demonstrated a favorable response in many adults. The protein fraction of the flour (gluten) has been identified as the substance to be excluded from the diet, rather than the starch content of the flour. Many patients have responded favorably, but failures are to be expected. Before accepting the trial of a gluten-free diet as a failure, a critical review is indicated of the patient's diet diaries. Although a normal diet is allowed in all respects except for gluten, the patient may unsuspectingly ingest gluten in prepared foods, soups, or breakfast cereals. A clinical trial up to six months has been recommended before deciding to discontinue the gluten-free diet.

The basic diet for the management of the malabsorption syndrome has been a high-protein, low-fat, high-vitamin diet. Preferably, carbohydrates include simpler sugars rather than starches. A bland diet is indicated with simple ingredients. Not

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infrequently the multiple deficiencies of calcium, iron, and vitamins do not respond adequately to dietary management. Supplements of the oil-soluble vitamins, A, D, and K may be essential. If manifestations of hemorrhage are confirmed by finding hypoprothrombinemia, parenteral vitamin K is indicated. Water-miscible preparations of vitamins A and D are now available. Although more expensive, their use is indicated in the hope that the water miscible material is more readily absorbed from the intestinal tract than oily vitamins. The B complex vitamins can be given parenterally if the patient has glossitis or skin lesions. Some patients with primary malabsorption do not tolerate the oral administration of multiple vitamins owing to symptoms of flatulence or pyrosis. Every patient should receive supplemental vitamin therapy during initial treatment. Even if the initial management of sprue is limited to the gluten-free diet as a therapeutic trial, vitamin supplements should be included in the program.

The macrocytic anemia of primary malabsorption may respond to pteroyl-glutamic acid or vitamin B_{12}. The response to the oral administration of folic acid is less satisfactory than in tropical sprue. Certain patients with primary malabsorption have been found to vary in response to folic acid and vitamin B_{12} therapy.[8] Folic acid in doses 10 to 30 mg., daily may not cause a remission of the megaloblastic anemia in all cases. The parenteral administration of 100 μg. of vitamin B_{12} should be given if folic acid does not provide a prompt hematologic and clinical response. Although useful in a control dosage of 10 to 30 mg. daily, folic acid must be supplemented with parenteral vitamin B_{12}, if central nervous lesion are suspected or there is any doubt about the etiology of the megaloblastic anemia. The daily injection of crude liver extract, 2 cc. intramuscularly, may provide a factor not present in refined products. Folic acid and vitamin B_{12} may fail to establish remission of the hematological picture.

Iron deficiency anemia may also be associated with the malabsorption. The oral use of iron-containing compounds may not be tolerated by the patient. Parenteral iron or the concomitant use of cortisone to improve absorption of iron in the gastrointestinal tract, has been recommended.[7] Patients respond more satisfactorily to whole blood transfusions which provide protein replacement, as well as parenteral iron supply. Although the deficient absorption of iron is not uncommon in sprue, lesions responsible for blood loss must be excluded.

TABLE I. GLUTEN-FREE DIET

A *normal diet* except that nothing made with wheat, rye, oat, barley or any grain other than approved substitutes can be used.

Substitutes
potato flour
rice flour
soya flour

Warning
Check all labels for the presence of wheat or rye flour.

Do not Use

bread	ovaltine
biscuits	paste on fish or meat
brown gravy	pastry mix
cakes	prepared cake
cream of wheat	prepared soups
doughnuts	puffed wheat
farina	rusks
grape-nuts	sausage
ice cream (commercial)	shredded wheat
macaroni	spaghetti
malted milk	rye krisp
noodles	

Check the patient's diet diary for errors in the use of gluten-containing grains.

This list is illustrative of the many foods containing gluten.

Dietary management, vitamin and drug supplements may fail to control primary malabsorption. Adrenal steroid therapy has been employed when sprue is resistant to management or there has been a relapse. Subjective improvement may be prompt with stimulation of the appetite, decrease in flatulence, increase in strength and sense of well-being. The decrease in number of stools and tendency to "form" has been confirmed by fat absorption studies. Although fecal fat excretion is reduced, it may remain abnormally high.[4] Colcher and Adlersberg[2] reported good results in the treatment of advanced stages of the disease with intravenous administration of corticotropin or hydrocortisone. The usual objective, however, is to use steroid therapy as a supplement to dietary management and replacement therapy of vitamins and minerals. The recommended initial dosage is 80-100 mg. of ACTH injected intramuscularly, or 100 mg. cortisone, 80 mg. of hydrocortisone or 60 mg. of prednisone in divided doses given orally. A maintenance dose of steroids is established for clinical control after satisfactory remission is established. Prednisone or prednisolone is given orally in doses up to 60 mg. daily. If the initial dose results in clinical improvement after two weeks of therapy, the daily dose is dropped gradually to a maintenance level. Cortisone in a daily dose of 25 mg. or 5 mg. of prednisone, is often adequate for control. Careful review of the patient's clinical status

TABLE II. THERAPY OF PRIMARY MALABSORPTION

Dietary Management
Gluten-free diet
High-protein, low-fat diet
Vitamin Supplements
Vitamins A, D, K, and B complex
Liver Extract, B_{12}
Folic Acid
Minerals and Electrolytes
Calcium, iron, potassium
Steroid Therapy

is necessary as a guide to maintenance dosage. Steroid therapy can be increased if a relapse threatens.

The effect of adrenal steroids on electrolyte balance emphasizes the need for such replacement in primary malabsorption. Potassium deficiency may be associated with the diarrhea of sprue and hypokalemia may be an important contributing factor in deaths. The intravenous administration of potassium chloride (20 to 40 mEq. daily) is indicated in the severe phase of the disease. Oral or parenteral potassium should be administered with any steroid therapy.

Deficiencies of calcium develop frequently with primary malabsorption. The oral administration of calcium salts three times daily is recommended for all patients. Hypocalcemia and tetany in the acute phase of the disease may require calcium salts parenterally. As previously indicated, vitamin D is a daily requirement with the calcium supplement. Although corticosteroids enhance osteoporosis, their use in severe cases of sprue with osteomalacia, has been recommended for the period of time necessary to effect a remission. In such cases, the simultaneous administration of calcium is necessary.

At the present time we prefer to treat each case of primary malabsorption with the gluten-free diet as an initial trial of therapy. In addition, the patient is given supplemental vitamins. During the past two-and-one-half years we have observed seventeen patients who have been placed on this dietary plan. All of these patients have responded in some degree to the exclusion of gluten from their diet. Three of them have gained over 20 pounds in weight. Improvement has been noted in their general sense of well-being and in the diminution of diarrhea. However, many of the patients have been on a combined therapy of steroids, folic acid, and vitamins. Under the combined therapy it is impossible to assess the critical value of the gluten-free diet. Eight patients who had been managed with standard high-protein, low-fat diet and supplemental drugs, showed an immediate improvement within weeks after the gluten-free diet was started. One patient gained 29 pounds in three months. It is interesting that two of these patients, who are now clinically asymptomatic, excrete 10.8 per cent and 18 per cent, respectively, of ingested fat.[9] This finding of an abnormal excretion of fat after remission on the gluten-free diet, is at variance with the reported normal fat absorption after gluten-free diet found by Schwartz and his associates.[11]

Four patients have responded promptly to the therapeutic trial of gluten-free diet without supplemental therapy. In none of these patients could a history be obtained of childhood nutritional problems or celiac disease. Two patients responded temporarily to the gluten-free diet, although primary malabsorption was later eliminated from the diagnosis. One of these patients died of a reticlum-cell sarcoma and the other patient was a postoperative gastroenterostomy case. Six months prior to death the first patient had had a jejunal biopsy reported histologically compatible with sprue.[6] The other patient has been a nutritional problem for many years but has not had diagnostic confirmation of primary malabsorption.

Although clinical and symptomatic improvement has been observed in this recent series of patients, the period of observation has been of too short duration to permit conclusions. Sprue has been a disease renowned for its chronic remitting course. Spontaneous remissions are not infrequent. The importance of the psychological effect of a new management regime must be evaluated. In fact, an important measure in the management of primary malabsorption is attention to the factors of nervous stress and fatigue. We have seen one patient who did not secure any symptomatic relief from the gluten-free diet during a period of time when she had problems in the family situation. Six months later, after resolution of the situational factors, and an opportunity for an extended vacation, she responded promptly when the gluten-free diet was again attempted. Many patients should be encouraged to take short periods of rest during the day and to avoid nervous or physical fatigue.

Therapy of primary malabsorption must be directed towards improving the patient's nutrition and correction of the deficiency states. No single drug nor dietary program can be given complete reliance. The gluten-free diet offers promise of a

valuable adjunct to the previous dietary management. The corticosteroids are an important adjunct in the control of patients who have not responded to therapy with vitamin and mineral supplements.

References

1. Anderson, C. M., Frazer, A. C., French, J. M., Gerrard, J. W., Sammons, H. G., and Smellie, J. M.: Coeliac disease: gastrointestinal studies and effect of dietary wheat flour. Lancet, 1:836, 1952.
2. Colcher, H., and Adlersberg, D.: Management of patients with malabsorption syndrome. *In* The Malabsorption Syndrome, Monograph. P. 213. New York: Grune and Stratton, 1957.
3. Dickie, W. K.: Celiakie, Thesis. Utrecht, 1950.
4. Drenick, E. J., Hvolboll, E., and Halsted, J. A.: Effect of ACTH and cortisone on fat absorption in steatorrhea of various causes. New England J. Med., 253:303, 1955.
5. French, J. M., and Hawkins, C. F.: The gluten-free diet in idiopathic steatorrhea. M. Clin. North America, 41:1585 (Nov.) 1957.
6. Haubrich, W. S.: Unpublished data.
7. Kelley, M. L., Logan, V. W., and Christ, L. M.: Correction of the anemia of malabsorption syndrome (nontropical sprue?) by oral administration of cortisone and iron. New England J. Med., 252:658, 1955.
8. Oxenhorn, S., Estren, S., Wasserman, L. R., and Adlersberg, D.: Malabsorption syndrome: intestinal absorption of vitamin B_{12}. Ann. Int. Med., 48:30, 1958.
9. Rinaldo, J. A.: Unpublished data.
10. Ruffin, J. M., Carter, D. D., Johnston, D. H., and Baylin, G. J.: "Wheat-free" diet in treatment of sprue. New England J. Med., 250:281, 1954.
11. Schwartz, M. K., Sleisenger, M. H., Pert, J. H., Roberts, K. E., Randall, H. T., and Almy, T. P.: The effect of a gluten-free diet on fat, nitrogen, and mineral metabolism in patients with sprue. Gastroenterology, 32:232, 1957.
12. Weijers, H. A., and Kamer, J. H. van de: Fat absorption in normal and abnormal infants and children with special reference to coeliac disease. Centr. Inst. v. Voedingsonderzoek, T.N.O. Utrecht. Pubn. 113, 1950.

Questions and Answers in Discussion

DR. SANDWEISS: Dr. French, insofar as laboratory procedures are concerned, you referred to fecal chemical fat, I^{131} activity and blood vitamin A values. May I state that fecal chemical fat determinations are difficult to obtain in a hospital. The same holds true for fecal I^{131} and blood radioactivity values, unless, of course, there is an isotope laboratory at the hospital. Even the vitamin A test is not a usual procedure in the average good hospital. I wonder what other laboratory procedures, if any, would you recommend for the doctors who practice in the average good hospital in the city and state?

DR. FRENCH: I would say, Dr. Sandweiss, it is my impression that there are a number of hospitals in the state, not very large ones either, which are doing fecal fat analyses. They are not difficult! The main problem is that they are not particularly pleasant to do. However, there are a surprising number of hospitals where fecal fat analyses are being done. The vitamin A is not a particularly difficult one to do. . . .

DR. SANDWEISS: Pardon me, Dr. French, I am assuming that the hospitals have neither the facilities nor the help for these three tests. Are there any simpler tests that you can recommend?

DR. FRENCH: Well, the glucose tolerance test is also a somewhat useful test. However, patients with the postgastrectomy syndrome (whether they have steatorrhea or not) and patients with the secondary sprues (including regional enteritis and Whipple's disease) often tend to have high curves. With these patients it is not very useful. In the case of primary sprue, however, you will find a flat curve in almost every patient. On the other hand, you are going to find that almost a quarter of the normal patients will also have flat curves if you take the cut-off point at 40 mg. per cent rise above fasting level, which is what you have to take in order to get all your sprue patients in. So we do not find the glucose tolerance test entirely satisfactory. I think if you do not have any of the essential tests I mentioned you might as well depend on the microscopic examination of the stool. Using heat and acetic acid and looking for fat and undigested meat fibers you will pick up about four-fifths of your sprue cases.

DR. SANDWEISS: Dr. Priest. How about the d-xylose and the serum carotene tests? I understand that these two tests can be instituted in the average hospital without much difficulty. In fact these tests can be performed in the average office on an ambulatory basis if a laboratory technician is available.

DR. PRIEST: The d-xylose is a rather expensive pentose sugar. It is, however, an easy test to do because the patient takes 25 gm. of it in the morning on an empty stomach and sits around the office four to five hours, during which time urines are collected. It does not require intravenous withdrawal of blood. It is a simple colorimetric laboratory determination and is accurate if the patient does not have kidney disease. Dr. Rinaldo in his studies found it to be a very valuable test in the identification of primary malabsorption when the

excretion is below 2 gm. per five-hour urine collection. The serum carotene test seems to be a very easy test to do on an out-patient basis. Blood is drawn in the morning on an empty stomach. As a screening test it is my choice. In a typical non-tropical sprue patient it is very low. The normal range ends at 70 μg. per 100 cc. of serum. In sprue cases we have cases as low as 5 and 8 μg. of serum carotene per 100 cc. of serum. In patients with low serum carotene values, 50,000 units of carotene can be given by mouth and forty-eight hours later the serum carotene level can be determined again on an out-patient basis. A typical sprue patient will usually fail to elevate the blood carotene content to a normal value.

DR. SANDWEISS: Dr. Marshak. What is the significance of flocculation when it is the only finding in the x-ray study of the small bowel? Is there any significance to flocculation when there is no segmentation and no dilatation of the small bowel and no moulage sign? Might this be due to the flocculating type of barium we still use? If so, why do we still use the flocculating type of barium?

DR. MARSHAK: Flocculation has been defined as the precipitation of barium into large amorphous flakes. When marked, it has the same significance as segmentation and clumping. Barium should be micropulverized with the addition of some suspension agent. When this type of barium is used, flocculation and segmentation is rarely seen normally. It is unusual to see flocculation without segmentation and some dilatation. It is possible that if old barium or barium of large particle size is employed that some flocculation can be seen normally.

DR. SANDWEISS: In his main talk, Dr. Bockus stated that the roentgen small bowel pattern which you described is very likely pathognomonic of non-tropical sprue. Is this true? What is the incidence of error in the roentgen diagnosis of the malabsorption pattern?

DR. MARSHAK: The findings of dilatation, segmentation, increased secretions and fragmentation when they are moderate or fairly advanced are most frequently seen in non-tropical sprue, occasionally in Whipple's disease or lymphosarcoma. When the findings are minimal, they can be seen in a large variety of conditions some associated with malabsorption and some having no relationship with malabsorption as hookworm disease, emotional states, amyloidosis and others. If you employ rigid criteria for the interpretation of segmentation and dilatation, the findings appear to be highly suggestive of non-tropical sprue.

DR. SANDWEISS: You just stated that the malabsorption pattern may be seen in emotional states. If so, how frequently do you have to repeat these examinations to be fairly certain that the patient has or does not have primary malabsorption?

DR. MARSHAK: Yes, mild changes of the malabsorption pattern can be seen in emotional upsets, but again the changes, if you want to grade them 1, 2, 3, or 4, will always be 1 or 1½. They will never be 2, 3, or 4. I always do every small bowel examination twice for corroboration.

DR. SANDWEISS: Can you differentiate primary malabsorption from pancreatic steatorrhea by x-ray?

DR. MARSHAK: I think it is generally agreed today that in pancreatic steatorrhea the findings in the small intestine are essentially normal. Therefore, if you do have segmentation and dilatation you can assume, in most instances, that this is not pancreatic.

DR. SANDWEISS: I have one more question for you and I will let you rest for a while. When a patient with primary malabsorption improves clinically, gains weight, and feels fine, do you still find changes in the small bowel on x-ray study?

DR. MARSHAK: Yes, we do. I did this study with Dr. Adlersberg. I am sure he can tell you much more about it than I can. Most of the patients that we re-examined still showed the typical changes of the sprue pattern. Only a few returned to normal. I have had no experience with the gluten-free diet. However, others tell me that there may be a remarkable change in the appearance of the roentgen pattern in sprue following the gluten-free diet.

DR. SANDWEISS: Thank you, Dr. Marshak. Dr. Adlersberg, you described morphologic changes in the mucosa of the small bowel obtained by small bowel biopsy with the Shiner tube. I would like to ask: When these morphological changes are found would you consider the findings definitely pathognomonic of primary malabsorption?

DR. ADLERSBERG: I am sorry, Dr. Sandweiss, that I cannot give you a definitive answer. This is a new technique and has been in use in this country only for about two years and in London somewhat longer. If you have the pronounced changes of atrophy and complete derangement of the normal architecture of the mucosa, I almost would call it pathognomonic.

DR. SANDWEISS: May I ask you the reverse of this question? Suppose you have a patient who has the clinical features of primary malabsorption, but the small bowel biopsy shows a normal jejunal mucosa. Does this rule out primary malabsorption?

DR. ADLERSBERG: No, definitely not! We have seen a number of patients with clinical features of

primary malabsorption and laboratory tests definitely suggestive of impaired intestinal absorption and yet small bowel biopsies showed normal jejunal mucosa. These are probably mild cases. However, I would like to stress that we still need additional studies to define exactly what is normal or abnormal in these mild cases. For instance, what is the length of normal villi? What is the normal thickness of the surface epithelium? These may show considerable variations among the so-called normal controls. What we can say today is: marked atrophy of the villi and the mucosa is highly suspicious of primary malabsorption. Whereas these morphologic changes are supportive evidence of primary malabsorption, negative findings do not rule it out.

DR. SANDWEISS: Since the small bowel in these patients shows atrophy of the mucosa and thinning of the small bowel wall, is there danger in doing a small bowel biopsy? Might not ulceration, hemorrhage and even perforation result?

DR. ADLERSBERG: This is a very important question. I can only say that in our hands we did not see a single complication. After the biopsy we call on each patient daily for several days and examine the stools for occult blood. Prior to the biopsy we determine the bleeding time, clotting time, platelet count and prothrombin activity. Dr. Shiner of London biopsied over 200 patients to date. To my knowledge she has not seen any serious complications. Each patient must be evaluated individually.

DR. SANDWEISS: In other words, Dr. Adlersberg, your answer is that a small bowel biopsy is not a dangerous procedure!

DR. ADLERSBERG: It is not dangerous because this technique produces only very superficial pieces of mucosa. I have no experience with other instruments.

DR. SANDWEISS: Dr. Adlersberg, I will ask you another question. In one of your publications you stated that about 90 per cent of the patients with primary malabsorption complain of diarrhea, weakness and periods of marked and rapid weight loss. Would you say that all patients who come into a doctor's office with intermittent diarrhea, a little weakness, a little weight loss be studied carefully to rule out primary malabsorption? Let us assume, in other words, that here is a patient who has intermittent diarrhea, a little weight loss, and weakness. The physical examination is not particularly revealing. There are no hemorrhagic areas, no cheilosis or glossitis, and no peripheral neuritis. The routine blood chemistries are within normal limits, including the blood calcium, albumin and the prothrombin time, et cetera. Yet the patient has a stool that is suggestive of primary malabsorption: it is gray, bulky and rancid in odor. Would you study all of these patients for primary malabsorption? In other words, what are your minimum criteria for a diagnosis of this disease particularly in the mild or latent phase, not the full-fledged primary malabsorption state?

DR. ADLERSBERG: An excellent question but difficult to answer. I believe that in each case of chronic diarrhea of prolonged duration, where your findings are not too convincing in regard to ileitis, colitis and similar conditions, you would have to think of the possibility of primary malabsorption syndrome. The first step to do is to examine the stools for fat. It is important to know whether the patient has steatorrhea. Now, Dr. Bockus, I am sure, will tell you more about the old doctors' habit of looking at stools and smelling at them as well, which I consider a very good screening test. I don't know whether you can separate sprues from non-sprues on this basis and what the percentage of accuracy is. But I can say that if you see a stool that looks fatty and has a rancid odor, mixed with putrefaction, then you go ahead and do something about it. Perhaps you should then send your patient to an x-ray man for a gastrointestinal and small bowel series in order not to overlook organic gastrointestinal disease. A vitamin A tolerance test and a d-xylose test would also be very helpful, I am sure. A "sprue pattern" of the small bowel, flat vitamin A curve and low xylose excretion will confirm the diagnosis.

DR. MARSHAK: To those of you who don't like to smell stools, order an x-ray.

DR. SANDWEISS: Dr. Bockus, any comments?

DR. BOCKUS: I, too, thought that was a good question. Actually this is the picture you are describing—if the patient is over the age of fifty, I would study the patient first of all for pancreatic carcinoma. If I had a patient with steatorrhea and marked weight loss, I think that would be the first thing I would do. We are not just here to rule out idiopathic steatorrhea. We are here to make a diagnosis! In all of these patients, one must rule out circumscribed organic disease by routine orthodox methods. Now, to get back to the malabsorption question itself. I am a great believer in using the things that are available to all of us. The stool is available for inspection and it looks like a stool with steatorrhea. Then you put it under the microscope and you find that it contains an excessive amount of fat. That is very helpful. Then you smell it. If it is very rancid the chances are the patient has "malabsorption" rather than pancreatic disease, because often pancreatic stools do not have so much in the way of fatty acids and show less fermentation. But, what no one has mentioned is the touching of it because if you touch it it has a greasy feel. Now those of you who are too fussy and don't want to touch it

you may use a wooden applicator, if you like. Yes, these plain old fashioned things are very valuable, and when you get through with them I would agree with Dr. Marshak—go to the x-ray. The x-ray is the next most important thing for the total screening because one must also rule out organic disease. The absorption tests won't do that, but the x-ray usually will.

DR. SANDWEISS: Thank you, Dr. Bockus. Dr. Priest. Here is a question for you. Why do you think that the gluten-free diet works?

DR. PRIEST: Is this a question for the entire panel?

DR. SANDWEISS: Well, for the moment, it is yours.

DR. PRIEST: It certainly isn't definite why it works. One would be surprised that such widely-used grains as wheat and rye would contain a substance allergic to such a small percentage of the people of the world, that is, allergic to the gluten fraction of wheat and rye. It is postulated that this fraction may add something to the mucosa which Dr. Marshak demonstrated in his x-rays—the positive moulage sign in ironing out of the plica circulares. Perhaps it may also have something to do with poisoning of the substances in the intestinal tract permitting absorption. I think that I would very much like to hear the other members of the panel comment on the mechanism of the gluten-free diet. I would like to emphasize that the psychological effect of the new program must always be borne in mind. We have had one patient who failed on the gluten-free diet and after a period of rest and resolution of her situational factors, a reintroduction of the diet made a tremendous improvement.

DR. FRENCH: I think one evidence against the allergic idea (which we regard as skeptically as Dr. Priest) is the fact that in an occasional patient with secondary sprue you will also get quite clear-cut response. Now in our own patients, every patient who we thought had primary malabsorption, that is to say nontropical sprue, has responded well to the gluten-free diet. If we give the patients enough time they go all the way back to normal. They do not need supplements because they maintain their levels of all the things in which they were originally deficient without any further supplementation. In the patients with secondary sprue there is no reason to postulate allergy. One was a patient who had simply a massive intestinal resection. The others were one patient with Whipple's Disease and one in which the cause of steatorrhea is unknown. This seems to rule out an allergic mechanism. It also seems to rule out the idea that this response is specific to sprue and celiac disease so that . . .

DR. SANDWEISS: May I break in here, Dr. French, and say that Dr. Priest stated that two of his cases with secondary malabsorption also responded to the gluten-free diet. And then, of course, you know that Finlay and Wightman reported that five of their seven patients with secondary malabsorption similarly responded to the gluten-free diet.

DR. FRENCH: That is exactly the point I was trying to make. If I said anything else I misused my words, because our patients with secondary sprue responded to the gluten-free diet just as Dr. Finlay's and Dr. Priest's patients have done. Therefore, I think one has to postulate that this diet is not entirely specific to sprue. On the other hand, sprue patients responded distinctly more dramatically than did the patients with secondary sprue, at least in our experience.

DR. SANDWEISS: I see that you want to say something, Dr. Priest.

DR. PRIEST: I wanted to ask if the members of the panel will comment on their trial of the gluten-free diet? Whether supplements should be given? If so, what type of supplements? In other words, patients who have failed to respond adequately in the past have had a tremendous drug bill each month and we have found several patients who have responded dramatically to gluten-free diet and were able to do away with $50 to $100 medicine a month. Should we start the gluten-free diet by itself with nothing else, or should we use it as a supplement at this time?

DR. SANDWEISS: Dr. Bockus, will you please answer Dr. Priest's question? Also, how do you treat your patients with primary malabsorption?

DR. BOCKUS: I should like to say very briefly that I am very enthusiastic about the use of the gluten-free diet properly applied and I feel exactly like our friends in Birmingham do. I feel so strongly about it that when it doesn't work I feel there is something wrong with the patient, or with your directions to the patient. My results have been just as good as those reported by the Birmingham group, except that we have a smaller series of patients. I don't think we know how it works, although I shouldn't say there is any proof from the small experience that it is not necessarily due to a hypersensitivity, because I think one may have a hypersensitivity in secondary cases too. I would like to just mention that a paper just recently appeared, I think, in the *New England Journal of Medicine* by someone in New York, whose name I cannot remember, who tried the serotonin metabolite test. The excretion of this serotonin metabolite was greatly increased in their six cases of the malabsorption syndrome. The application of the gluten-free diet reduced the excre-

tion to normal in four of the six patients. This, I think, may have some importance from the standpoint of pointing out how this diet works. Dr. Sandweiss also, I think, wanted me to say that we had had very little success in the treatment of these patients before the era of the gluten-free diet. However, we had fair success in 50 per cent of our patients with the malabsorption syndrome utilizing psychotherapy, reducing the fat (and often sweets) in the diet, and the administering large doses of pancreatin. But any one of them might have a relapse at any time and then one must fall back on this terrible drug which Dr. Adlersberg is so fond of using, one of the steroids. At the present time, Dr. Adlersberg's business with the steroids is going to fall tremendously as a result of the gluten-free diet.

DR. SANDWEISS: May I ask you, then, Dr. Bockus: If prior to the gluten-free diet, and prior to the steroids, 50 per cent of the patients responded to reduction of fat in the diet, to large doses of pancreatin and to psychotherapy, why credit the gluten-free diet for the slight increase in the percentage of remissions following this special diet? What about the psychologic effect of this rigid diet, and the more frequent visits to doctor and dietitian; and what about the psychosomatic effect of searching food labels for "gluten," et cetera, et cetera?

DR. MARSHAK: Dr. Bockus always forgets the names of the doctors in New York. The doctor's name is Sleisinger.

DR. BOCKUS: Exactly right!

DR. SANDWEISS: Dr. Bockus, now that we have the names straight, how about the psychosomatic effect of the gluten-free diet?

DR. BOCKUS: There isn't any question about the psychovisceral phase of every disease as I shall try to point out this afternoon. It is always important! Which comes first and which comes second in many instances nobody knows. However, if you ignore the psychovisceral phase, the psychological phase of the malabsorption syndrome, you are ignoring a very important factor. Many of these young people are highly sensitive and that has to be taken into consideration. In the days before gluten-free diet the thing in my opinion that flared them up more than anything else was an emotional upset, probably even more than a dietary indiscretion.

DR. SANDWEISS: Dr. Adlersberg—Steroids.

DR. ADLERSBERG: Steroid use has fallen off considerably since the advance of the gluten-free diet. Now, gluten is considered, at least by our Dutch friends, to be an essential part of the disturbance in the malabsorption syndrome involving the pteroylglutamate complex. Actually nobody knows for sure what the enzymatic mechanisms are. We believe less and less that gluten in sprue presents a simple sensitivity or an allergic phenomenon. Now, I would like to tell you this, however: If you have a patient who is *acutely* ill with the primary malabsorption syndrome with the profuse type of diarrhea, in my opinion there is only one way of treating the patient *immediately*, and that is to give him steroids at least for the time being. Give him an intravenous drip infusion of ACTH or hydrocortisone and within a few hours you may see marked clinical improvement. Now, there is no doubt about that. We certainly are very fond of steroids! You can even use them in small doses as a maintenance therapeutic regimen. They produce very little harm if you use these drugs cautiously and observe your patients carefully. However, we have taken many patients off steroids, particularly those whose conditions improved, who gained weight and whose bowel movements were reduced to one to two per day and we maintain them with excellent results on gluten-free diets. Now-a-days if a patient is not extremely ill I like to start him on a gluten-free diet. The only thing that disturbs me is that those who have more experience with the gluten-free diet, especially our friends in Birmingham and Holland, say that you cannot decide whether your patients respond to this regimen unless you use the diet for three to six months. This is a very delicate question, because within three to six months the patient may develop a spontaneous remission on any form of therapy, especially if he has a mild form of the disease.

DR. BOCKUS: I would like to comment briefly on this, David. I happen to know these Birmingham people very well and have talked with them many times. The patients who do not respond to a gluten-free diet in a relatively brief period (from two to six weeks) are exceedingly few, since they have learned the intricacies of the diet. The important thing to remember, however, as Dr. Priest so well demonstrated, is that a gluten-free diet is not an easy diet to prepare and follow. There are so many things that people pick up and eat that have wheat in them, of which they are unaware. And that, I think, is the principal problem, Dr. Adlersberg.

DR. SANDWEISS: Thank you, Dr. Bockus. And thank you, Dr. Adlersberg, Dr. Marshak, Dr. French and Dr. Priest. The members of the Michigan State Medical Society are deeply grateful for your participation in this program.

Summary of Panel

By David J. Sandweiss, M.D.
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SOME of the salient points that have been made may be summarized as follows:

Primary malabsorption is a complex metabolic disorder of unknown etiology.[1] It may, however, be referred to as a disease chiefly characterized by atrophy of the small intestinal mucosa and impairment of intestinal absorption.

Primary malabsorption includes the diseases commonly referred to as celiac disease in childhood, nontropical sprue or idiopathic steatorrhea in the adult and tropical sprue, when it occurs in the tropics.

Primary malabsorption is no longer considered to be a disease with an impairment of absorption of fat only, but a disease with an impairment of absorption of all nutrients: protein, fat, carbohydrates, vitamins, minerals and even water.[5]

The impairment of absorption is not an "all or none" impairment. Rather, as stated by Dr. Adlersberg, there is a "selective dissociation of degrees of malabsorption of various substances and, perhaps differences in intensity of metabolic defects."[2]

Impaired absorption leads to deficiency states.

Clinical features of the deficiency states depend solely on the nutrients involved and the intensity of their malabsorption, as follows:

Calcium may be poorly absorbed both because vitamin D may not be absorbed and also because calcium combines with the excess fatty acids in the intestinal contents to form insoluble and unabsorbable calcium soaps. These may result in depletion of calcium stores followed by *osteomalacia*, *hypocalcemia*, and *tetany*.

There may be malabsorption of the fat-soluble vitamins. Failure to absorb vitamin K may lead to *hemorrhagic phenomena* as a result of *hypothrombinemia*. Vitamin A deficiency may lead to *skin changes* and *night blindness*.

Malabsorption of water-soluble vitamins may lead to *glossitis* and *cheilosis* because of nicotinic acid and riboflavin deficiency; to *megaloblastic anemia*, because of folic acid and of Vitamin B_{12} deficiency; to *peripheral neuritis*, because of thiamin deficiency.

If there is a significant malabsorption of iron the patient may develop, also, *iron deficiency anemia*.

Diarrhea may result in marked *fluid loss* and *electrolyte depletion*. The diarrhea is very likely due to irritability of the bowel from the excessive fatty acids and the increased calcium soaps in the intestine.

Malabsorption of protein, fat and carbohydrate leads to excessive *weight loss* and *general malnutrition*. As body protein stores are raided for the amino acids then required to provide essential calories through gluconeogenesis, there may result further *atrophy of the intestinal mucosa* and *atrophy of pancreatic cells*, with *reduction of enzymes*. These, naturally, further intensify malabsorption. It has been stated, also, that "Inadequacy of amino acids for normal synthesis of polypeptide hormones may produce secondary *hypopituitarism* with resultant *amenorrhea* in young females."[14] Protein depletion, if excessive, might also cause *hypoproteinemia* with *edema* as well as impairment of bone matrix formation, that is *osteoporosis*.

It can thus be seen that because of the many possible deficiency states that may result from impairment of intestinal absorption, the clinical features of primary malabsorption may be very bizarre, indeed. However, Dr. Adlersberg has pointed out that about 90 per cent of the patients with this disease complain of intermittent diarrhea, weakness and periods of marked and rapid weight loss. Therefore, given a patient who complains of weakness, and who has periods of rapid and marked weight loss, and who has intermittent diarrhea, with a stool that appears frothy or foamy and that has a rancid odor, think of or suspect primary malabsorption. Of course, as stressed by Dr. Bockus, one must rule out the diseases that cause secondary malabsorption, such as carcinoma of the pancreas, extensive regional ileitis, Whipple's Disease, lymphosarcoma of the small bowel, et cetera.

The laboratory tests that we employed in the past are still as helpful today as they were in the past. These are: the gross and microscopic exam-

ination of the feces demonstrating the large frothy stools which are highly rancid and which show an increase in fat and fatty acid crystals; the hemogram which may show a macrocytic or microcytic anemia and an hypoprothrombinemia; and the blood chemical studies which may demonstrate hypoproteinemia, hypoalbuminemia, hypocalcemia, hypocholesterolemia, hypolipemia, increased alkaline phosphatase, and flat glucose tolerance values. These laboratory procedures are still helpful. However, there are three simple laboratory absorption tests that can be instituted in practically every hospital, and, in fact, may be instituted even in your own offices, if you have a laboratory technician. These are the five-hour urine d-xylose test,[3] the serum carotene level[15] and the vitamin A tolerance test.[9] These are fair screening procedures for malabsorption.

For a definitive diagnosis, you may have to determine fecal chemical fat[13] or fecal I^{131} radioactivity following triolein or oleic acid-I^{131} feedings.[8] Indeed, you may even have to do a small bowel biopsy.[11] According to Dr. Adlersberg, marked atrophy of the small intestinal villi and mucosa, is highly suspicious of primary malabsorption. In fact, some authorities are of the opinion that these morphologic changes in the small bowel mucosa are pathognomonic for primary malabsorption.[12]

A roentgen study of the jejunum and ileum is a "must." As stated by Dr. Marshak, the roentgen findings of dilatation, segmentation, increased secretions and fragmentation are highly suggestive of this disease. However, you cannot just order an "Upper G.I." or a "Barium Enema." You must order a "Small Bowel X-ray Study."

The most important contributions that have been made in recent years, I believe, deal with the therapeutic regimens. As shown by Dr. Priest,[10] by Dr. French[6] and by French and Hawkins,[7] many of these patients respond to the gluten-free diet. A few additional ones respond only to folic acid orally or vitamin B_{12} parenterally. Still others respond to steroids.[4]

It can be said with confidence, that the outlook for the patient with primary malabsorption, if you diagnose it and treat it, is better today than ever before.

References

1. Adlersberg, D.: Symposium: The malabsorption syndrome. Introduction. J. Mt. Sinai Hosp. New York, 24:177, 1957.
2. Adlersberg, D., Wang, C. I., and Bossack, E. T.: Disturbances in protein and lipid metabolism in malabsorption syndome. J. Mt. Sinai Hosp. New York, 24:210, 1957.
3. Benson, J. A., Jr., Culver, P. J., Ragland, S., Jones, C. M., Drummery, G. D., and Bougas, E.: The d-xylose absorption test in malabsorption syndromes. New England J. Med., 256:335-339, 1957.
4. Colcher, H., and Adlersberg, D.: Management of patients with malabsorption syndrome. J. Mt. Sinai Hosp. New York, 24:380, 1957.
5. Comfort, M.: Nontropical sprue: Diagnosis and therapy. Gastroenterology, 34:476, 1958.
6. French, A. B.: Absorption tests in the diagnosis of intestinal malabsorption. J. Michigan M. Soc., 58: 776, 1959.
7. French, J. M., and Hawkins, C. F.: The gluten-free diet in idiopathic steatorrhea. M. Clin. North America, 41:1585-1596 (Nov.) 1957.
8. Grossman, M. I., and Jordan, P. H.: The radioiodinated triolein test for steatorrhea. Gastroenterology, 34:892, 1958.
9. Paterson, J. C. S., and Wiggins, H. S.: An estimation of plasma vitamin A and the vitamin A absorption test. J. Clin. Path., 7:56, 1954.
10. Priest, R. J.: Therapy of primary malabsorption. J. Michigan M. Soc., 58:783, 1959.
11. Shiner, M.: Small intestinal biopsies by the oral route. Histopathological changes in the malabsorption syndrome. J. Mt. Sinai Hosp. New York, 3:273, 1957.
12. Shiner, M.: Personal communication, September 19, 1958.
13. van de Kamer, J. H.; ten Bokkel Huinink, H.; and Weyers, H. A.: Rapid method for determination of fat in feces. J. Biol. Chem., 177:347-355, 1949.
14. Volwiler, W.: Gastrointestinal malabsorption syndromes. Am. J. Med., 23:250, 1957.
15. Wenger, J., Kirsner, J. B., and Palmer, W. L.: Blood carotene in steatorrhea and malabsorption syndrome. Am. J. Med., 22:373, 1957.

THE AMERICAN CONSUMER DOLLAR

People in the United States spend 14 cents out of every dollar on transport and communications, more than anyone else in the world.

The annual UN statistical yearbook gives this breakdown of the American consumer dollar in 1957:

Food, 24 cents; transport and communications, 14; rent and water, 13; household upkeep and furnishings, 11; clothing, 9; medical and dental, 7; tobacco and drinks, 5; fuel and light, 4; miscellaneous, 13.

Responsibility of Hospital Trustees in the Future

By Willard C. Rappleye, M.D.

New York, New York

THE responsibility of hospital trustees in the future is that of placing and maintaining the hospital as a community health agency closely linked to other professional and lay groups, organized labor, industry and local governments that are working in the same field of endeavor. In view of the many changes now going on in our whole social, economic, educational and professional structure the challenge to trustees is for a high order of wisdom in one of the most complicated aspects of modern society.

The world is in a new cycle of events and new alignments. Before our very eyes we have seen the break-up of the British Empire. The worldwide growth of nationalism is evidence of unrest and widespread dissatisfaction of peoples who often have not the means to solve their problems. Highly significant characteristics of the many changes is the rapidity of events made possible in part by present-day methods of communication. Even in this country there are pressures for change which reflect areas of discontent with the established order. The American public is disturbed by the slowness with which scientific and technologic advances are applied in our own rapidly moving society. It is important, however, that in the public interest we retain a proper perspective and devote ourselves to progressive ideas based on proven experience.

The interdependence of the many elements of our social structure is clear. It is the part of wisdom to view our community and national situations as a whole rather than merely a cluster of more or less individual parts, often acting separately, frequently neutralizing each other and sometimes creating undesirable tension. Another item to emphasize is that whatever is likely to happen a decade from now is taking shape at this moment. Hence the great merit, indeed the necessity, of analyzing and judging current trends as accurately as our talents will permit.

Change and evolution are inevitable. Individuals, institutions and organizations must learn to adapt themselves to new and different conditions without, however, surrendering basic principles and obligations. In spite of all the ferment about health matters and the impact of many factors beyond the control of the health agencies, of which one of the most important is the hospital, the elements of sound health services should be preserved.

Among some of the features of our complex community life which have an impact on the problems of medical care and hospitals may be mentioned the industrialization of the country; the high rate of urbanization; the migration of the population (during the last twelve months thirty-three million people moved to new locations, the largest shift in history, mostly through the development of suburbs and the movement from the farm to the city); new methods of transportation and communication; the aging of the population with, at the same time, a marked relative increase temporarily in the population under twenty years of age (which may reach 40 per cent by 1970); the ever-increasing complexity of scientific knowledge with necessary specialization since no individual can master all phases of modern medicine; the rising costs of medical and hospital care; the growth of prepayment hospital and medical insurance; the conduct of government largely by pressure groups; the growing emphasis on preventive medicine, mental disorders, chronic disabilities and rehabilitation; and the extension of universal education. In spite of these and other factors, the needs of the patient and of his family in matters of health, sickness and disability are still personal and individual and are likely to remain so.

The provision of adequate health service is one of America's essential industries and ranks in importance with food supply, employment, transportation, housing, education and social security,

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with each of which it has direct relationship. It is one of the largest, involving over 2 million personnel and costing over $20 billion annually. The health professions have accepted, or have had thrust upon them, community responsibilities of the broadest character. This is in keeping with the public recognition of leadership in other fields such as government service, industry, labor, agriculture and education.

In considering the health needs for a population, one must think in terms of trained men and women rather than just facilities. It is known that health within certain limits is a purchasable commodity, but sight is often lost of the fact that the level of any program cannot rise above the competence of those who participate in and direct it. The physician occupies the key position in such a program. Any plan of organization, whether developed from within the professsion or imposed upon it from without, which lessens the responsibility of the trained physician or denies him the rewards of superior ability and character will, in the long run, be detrimental to the public welfare. With the rapid development of scientific knowledge the gap between what is known and what is applied to meet the needs of individual patients and their families is still wide. Overcoming that lag is a responsibility of every employer, union, professional group, institution and community. We do have the know-how and can create the facilities. The problems of proper organization should not be insurmountable, but resolution of these elements alone will not solve the situation. Existing facilities and resources must be multiplied and brought to bear upon the central problem itself under the guidance of competent and informed leaders, professional and lay.

It is well to recall certain well-known facts which explain some of our present dilemma. The average expectancy of life has increased in the last fifty years from forty-seven to sixty-nine years. One result of the lowered death rates in the last decade, alone, is that there are 1,245,000 more Americans alive today than otherwise would have been. This favorable development has been brought about largely through the control of the infectious diseases, especially those of childhood, and explains in considerable part the present age distribution of the population mentioned earlier. We are now confronted with the problems of aging, mental disorders, long term illnesses, heart disease, cancer and many other conditions which cannot be met by mass measures of control or treatment.

During World War II, 1,967,000 people died in the United States of diseases of the heart and circulation, which is eight times as many as were killed in action in the Armed Forces. Cancer killed over twice as many as lost their lives in the Armed Forces. One out of every four persons now alive will develop cancer at some time in his or her life.

It is estimated that there are 23 million partially or totally handicapped persons in this country. There are close to 14 million individuals afflicted with diseases of the heart and arteries, about 11 million with arthritis and rheumatism and approximately 14 million have some degree of mental disorder, as illustrations. Obviously the problems in many of these diseases require individual attention, personal education, early diagnosis, proper preventive therapy; in other words individualized rather than wholesale methods of care and treatment.

Current opinion is that the present life expectancy will not be materially lengthened in the near future because a further reduction in the present low death rates from acute diseases is not likely to have a marked effect in reducing the over-all rate. The incidence of death from chronic diseases is practically stationary now. Hence, our attention, facilities and resources must be concentrated on a new set of problems which are now clearly recognized and which are being attacked in a variety of ways. Perhaps this situation can be illustrated in another context by the recent endeavors to control disease in the tropics. It had long been thought that once malaria—probably the greatest killer in the world—was controlled, the health situation in large areas would be greatly improved. It has become better as malaria has been reduced but control of the infectious malaria has not been accompanied in the tropical areas with the improvement that had been predicted because of the recognition now of the protein deficiency disease known as kwashiorkor, which is of prime importance in great sections of the world. This illustrates so well the frequent experience of solving one problem merely to be confronted with another.

The American people are convinced of the value of adequate health services and are determined that in some way the benefits of modern science shall be made available to all. Medical security is coming in some form and it is up to

us to propose the ways and means by which sound progressive plans can be formulated. It would indeed be shortsighted and, in the long run, futile to ignore the broad social implications of the health services. At the moment particular attention is being placed on the purely economic factors involved. As mentioned earlier, real insurance must be identified with the competence of the professional services rendered. The ultimate hope of all of these efforts should be focused on prevention, the anticipation of possible disorders, and the proper treatment of the beginnings of disease. This is not only common sense but it is also good business in view of the loss of 400 to 500 million working days a year of what is to a considerable degree preventable disability and absenteeism. This factor in our national economy is self-evident.

The hospital and health services will have to be considerably expanded through the extension of prepayment and other methods of financial support in order to accomplish some of the results to which reference has been made. This will involve the extension of prepayment plans to cover mental disorders, retired employees and their families, chronic diseases, rehabilitation and out-patient services. They should be aimed at providing life coverage. It is vital that plans be developed under the American system of private enterprise to meet these responsibilities if we are to avoid some of the undesirable experiences seen in European countries. As you know, the National Health Service of Great Britain, as an example, which includes practically 100 per cent of the population, is administered by 148 Local Health Authorities; 138 Executive Councils, dealing largely with local general practitioners; fourteen Regional Hospital Boards (3,426 hospitals); thirty-six Boards of Governors of Teaching Hospitals (147 institutions); and Ancillary Services. It is an organic part of the whole socialistic insurance plan covering unemployment, cash sickness benefits, maternity services, retirement pensions, disability allowances, death grants and many other financial benefits for the entire population. In our system of free enterprise we should have the ingenuity and skill to meet the community health needs without national supervision.

Reference should be made to the role of medical and health research which has brought about the phenomenal advances in this country. The fact that the death rates in certain infections have declined dramatically in the decade 1944 to 1954 testifies to the value of research. In appendicitis, the drop was 76 per cent, in acute rheumatic fever it was 73 per cent, in pneumonia, 43 per cent, in maternal deaths, 77 per cent, and in tuberculosis, 73 per cent, as illustrations. The poliomyelitis vaccine reduced paralytic polio by 70 per cent to 90 per cent. The American public has been sold on the value of research. The expenditures in this country in 1958 for medical research alone are about 330 million dollars. An estimate in recent days puts the figure nearly 100 million dollars more than that. It is predicted that the total will reach 900 million dollars by 1970 with long-term and essentially permanent support from the federal government under procedures now well established. These developments are of significant importance to hospitals. Some have taken the position that teaching and research costs should come from universities or private donors, often without recognizing that the quality of patient care in any institution is in no small measure dependent upon the scientific work and the presence of investigators and research men on the staff.

Industry also has a prime stake in this over-all development on which it is not necessary to dwell. It is clear that the objectives of business enterprise have greatly broadened into appreciation of community responsibilities which mark the high level of corporate citizenship identified with American industry. These objectives have taken the form of closer co-operation with labor unions in various health and medical service plans, including the growth of numerous important fringe benefits in these areas. Industrial medicine itself has become a major specialty with its emphasis on prevention, prompt treatment, control of unnecessary hospital or other services, aiding production through maintaining high levels of health of the workers, reduction of absenteeism and dealing with emotional and related problems of workers.

There seems to be growing agreement that prepayment plans for hospital and doctor services are the most satisfactory methods to budget the costs of hospital and medical care, that the benefits should be in kind rather than in the form of cash indemnity, that comprehensive medical services (through group practice when desirable) should be provided and made available in the hospital, the doctor's office and the patient's home, that these should be of high quality, and that the serv-

ices should be available to the workers and their dependents even when temporarily unemployed or when retired. The economic implications of such proposals and the financial as well as administrative difficulties now encountered by a number of prepayment plans are familiar to most of you.

Recognition of the joint responsibility of the hospital with other groups is not new. It was stressed in a report on "Principles of Hospital Administration" issued in 1922 which stated that:

> . . . the hospital represents in general the common ground of most of the health activities and groups engaged and the type of organization which may readily be adapted to the functions of co-ordination, education and service. It occupies a strategic position in the whole field of health.
>
> With proper safeguards, the hospital should have its entire facilities and personnel available for service to the community and to the practicing professional groups of the neighborhood, whose interests and those of the community in health matters are in large measures identical.

This is another way of saying that the hospital is not exclusively a proprietary work shop for the doctor but an active force dealing with many aspects of the public's health. The modern hospital is concerned not alone with in-patient care but with the follow-up of patients into their homes, into nursing homes, the use of "homestead" plans, out-patient services, the follow-up of chronic diseases, and vocational, educational, physical and mental rehabilitation. The hospital of the future may well be designed primarily to provide community preventive health services for ambulant patients and well people, with in-patient beds an adjunct for the acutely ill and those requiring special diagnostic or treatment facilities and personnel. It is obvious that this concept of the modern hospital is characterized by flexibility and a focus on the functions to be performed rather than on institutional management. A program of this kind must visualize the relationship of different agencies in the whole community, including suburbs, the elimination of duplication where possible, better utilization of certain specialized facilities, possible regionalization of the area and the fuller use of beds and other resources. It is this approach that must characterize the program of the hospital as visualized by the Greater Detroit Area Hospital Council.

It is of the highest importance that the financial support of hospitals be stabilized and not be dependent upon temporary fluctuations due to changing economic conditions. It should also provide for annual increments of increase necessary to maintain their programs at the highest level of excellence and to keep the hospitals abreast of new discoveries, skills and required personnel.

The hospital today has essential services to the community above and beyond the care of patients, vital as that is. Its functions can be discharged in the future only by doing its part to insure a continuous supply of well-trained personnel. Nurses of various types, technicians of many kinds, dietitians, physical therapists, social workers, orderlies, record room clerks, interns and residents may be mentioned to illustrate the range of educational responsibilities which every hospital must assume in some degree as its contribution to our national and local health programs.

Usually we think of the university as having the obligation for the education of physicians. The fact is that it can meet only a portion of that duty. A part of the clinical education of undergraduate medical students frequently is provided in non-university hospitals. Two-thirds of the 12,626 approved internships and over one-half of the 31,665 residencies are in such hospitals. Although these appointments are primarily for training, the service features often are more prominent than the educational. Please note that there are about as many internships in the non-university institutions now as there are graduates from American medical schools each year. The non-university residencies are more than twice as many. Since the essential preparation of a physician today includes a period of hospital training it is evident that a substantial part of medical training today is in hospitals not under university control, a fact that is not generally realized. The number of men and women in the internship and residency phases of present-day over-all medical education and services in university and non-university hospitals is greater than the total enrollment of the eighty-five medical schools in the United States and five times the number of graduates each year from those schools. In other words, a large part of medical education in America is actually under hospital supervision and guidance which makes that institution a vital part of the whole educational system of medicine.

It is accepted that every physician in practice must remain a student throughout his professional

life if he is to keep abreast of new developments in medical care. For several reasons only a small part of this continuation education is provided by the universities of the country. The medical profession in Michigan is fortunate to have much more than the usual help from the University of Michigan with whose programs it has been my privilege to be acquainted for many years. Again, however, it is largely through educational plans conducted jointly by the hospital and the medical profession that this essential phase of community-wide health services of high quality can be maintained.

It is evident, therefore, that the complexity of hospital activities and the wide variety of personnel and skills needed in their operation and the fact that no single individual can master all phases of medicine and hospital care emphasize the necessity of the team concept. The hospital center represents a mobilization of professional talents, research and education in a combined assault on the health problems of any community.

The real hospital deficits are not alone in terms of money but in failures to provide all of the essential services which a group of institutions and organizations should be expected to supply to the whole community. The purely financial operation is not even a true fiscal presentation because it does not reflect the services left uncovered, but needed. It is important always to emphasize that the essential function of the hospital—in fact, the only reason for its existence or support—is that of providing the highest type of professional services required by the community and its patients.

In providing for hospital needs, trustees must accept responsibility for more than just a few more buildings, some better facilities and a little more money to balance the budget; that is not enough —although it frequently is a demanding responsibility. Yet such a philosophy will be disastrous to the new concept of the functions of the hospital as a social instrument.

We are in the most demanding era of our history. We must build for the future in hospital services and medical care as daringly and as energetically as we have built other aspects of our national economy such as industry, transportation, agriculture and housing. Our thinking and aims must be at the level of the dramatic, not the commonplace.

We are no longer living in a frontier world, nor even in an individualistic world, but one demanding co-operation and interdependency. It is, therefore, necessary that each of the major agencies in any community seek understanding of the functions and responsibilities of other organizations, institutions, professions and the current trends in the health program required for constructive planning. The hospital program should envision the health needs of the entire area and be comprehensive enough to include everyone who wishes and is qualified to participate.

The attitudes of the hospitals, of the medical profession and of the public are keys to an overall co-operative plan. What is important is not the detail of one program or another. It is that everyone becomes increasingly aware of the challenge to our knowledge and skills and to our humanity. The formidable tasks ahead present a major challenge. The various programs and activities need to be orchestrated first in the individual hospitals and secondly on a community-wide basis through the Hospital Council. In each of these areas, hospital trustees as policy-forming bodies must supply their share of imaginative leadership and determination.

COMMUNITY HEALTH STUDY

Continuance of The University of Michigan's community health study of Tecumseh, Michigan, has been assured by a five-year grant-in-aid from the National Institutes of Health, a division of the U. S. Public Health Service. The study is an intensive survey of the general health picture of a single community. It began in 1956 under a state appropriation for research in human resources. It involves some 8,500 persons in the Tecumseh area. Work thus far on the project has involved a census of the population by both households and kindreds and collection of data on diseases and disabilities.

Actual investigations are conducted by individual departments and research groups in the School of Public Health and the U-M Medical Center. The overall program is directed and coordinated by Robert J. M. Horton, M.D., professor of epidemiology.

Information already gained on the study has formed a basis for research on heart disease, influenza and cerebral palsy. Additional studies are being made of immunization against respiratory infections, the relation of blood groups and fertility, and the development of the infant and pre-school child.

The National Institutes of Health granted $86,250 for the coming year's research program. Future grants are expected to bring the five-year total to approximately $360,000.

Editorial

AN APPRECIATION

This number of THE JOURNAL is the Beaumont Number. We are happy to dedicate it to Dr. Beaumont and his memory. We owe our thanks to Otto Beck, M.D., and A. H. Whittaker, M.D., for rounding up the material and preparing it for publication, also for their advice and counsel. While doing this, we must remember that the April Cancer number received much advice and help from J. W. Hubly, M.D., and his committee. The March number, devoted to Washtenaw County, was a testimonial to the untiring and contagious work of Wallace Teed, M.D. We are also indebted to Oliver McGillicuddy, M.D., and to Hugh Brenneman who co-operated in producing the February number—The Doctor as a Citizen.

THE BEAUMONT MEMORIAL AND MACKINAC ISLAND

At the time of the dedication, in 1900, of the monument in Fort Mackinac on Mackinac Island to Dr. William Beaumont, by the members of the Michigan State Medical Society and the Upper Peninsula Medical Society, there was a close liaison between the Michigan Historical Commission and the Mackinac Island State Park Commission, which resulted in the erection of numerous markers and tablets commemorating gallant military figures, professional people and government officials.

After 1915, this rapport was lost and in 1950 when the Council and the Beaumont Committee of the Michigan State Medical Society wished to activate a program of historical restoration on Mackinac Island, it was impossible to secure the interest of the Commission. The Historical Commission also was impotent, finding it impossible even to erect historical markers on the island.

With the completion of the Beaumont Memorial and the gift of the Memorial to the State, the Park Commission continued difficult and for a while all control of the Beaumont historical program was lost to the physicians of the state.

Governor G. Mennen Williams became increasingly interested in the history of the Straits area and, to secure a program of accomplishment, changed the personnel of the Mackinac Island State Park Commission, appointing a physician member of the Board of Trustees of the Beaumont memorial to the Commission, provided inspired leadership by appointing W. Stewart Woodfill, chairman, and issued a directive to the Michigan Historical Commission to co-operate with the Park Commission and the State Medical Society.

Beginning in 1957, the three agencies have worked in harmony as a team, constantly consulting in the development of a plan of restoration and historical development.

The Legislature also co-operated through members interesting themselves in the program and by passing enabling legislation to permit the Park Commission to issue revenue bonds in the amount of $125,000 to restore Fort Mackinac and additional funds to restore Old Fort Michelimackinac at Mackinac City and Fort De Buade at St. Ignace.

During the summer of 1958, 118,000 visitors passed through the turnstiles of the Fort, which was undergoing rapid development, making it possible to retire the bonds quickly.

The Historical Commission loaned Dr. Eugene T. Peterson, historian, to the Park Commission to supervise the restoration of the Fort, and Dr. Peterson also acts as consultant to the Beaumont Foundation in further developing the Beaumont Memorial.

The success of the Medical Society in restoring the Beaumont Memorial resulted in the Michigan Branch of the American Institute of Architects and the Builders of the State, under the guidance of Adrian N. Langius in raising $65,000 to restore the Biddle House at the west end of Market Street. This restoration was completed in the summer of 1958.

Market Street is the historical area of the city on Mackinac Island, the Beaumont Memorial standing at the eastern end of the street in the shadow of the Fort.

Plans have been made to refurbish the Robert Stuart House, the Museum of early Mackinac. At the present time, this museum is administered by the city, but it is hoped it will be transferred to the State Park Commission to become part of the over-all historical development.

To the west of Stuart House the buildings of

President's Message

Too Tired to Do Our Duty?

Several bills in our national Congress and State Legislature would aim to "help people" at only the *slight* cost of loss of a portion of their freedom—plus a tiny bit more taxation.

We're getting used to the latter but Freedom isn't easy to come by.

People who haven't it are willing to chance death to get it.

People who have it are usually ready to fight for it.

No one ever, ever talks against it.

But some *act* against it—usually in the name of a currently popular god. Whatever god it is, the approach is always basically the same. It's to everybody's "advantage" to bow down to it and to give up whatever liberties are in conflict with the popular idol.

It could be the god "Efficiency," although that god is a little worn now and it got a bad name for heartlessness. It could be the god "Conformity." The good of the little man demands conformity in thinking, just as the Chinese are now enjoying communal living.

The reason I bring this up at this time is because I think the time is ripe for the professonal man to tell the Truth and demand the Truth. As professional people, doctors of medicine must seek the Truth or they fail in their practice. As professional people, doctors of medicine must seek the Truth in the business, social and political world or they will fail in their duties as "citizens."

It's easier to bow to Efficiency, or Conformity. It's easier to be a slave. But we didn't get to be Free professional people by taking the easy way in our youth. And I don't think we're too tired yet to do our duty.

Delbert B. Dallenbach

President, Michigan State Medical Society

the American Fur Company (old warehouse) are in good repair. To the east the clerk's quarters, which collapsed in 1957, is to be replaced by a new U. S. Post Office as part of the National Government's participation in the development of the Island. The Post Office design and construction will be under the supervision of Warren Rindge, architect for the Beaumont Memorial with Professor Emil Lorch, and the Biddle House, which will insure proper design for the historical values involved.

The mid-section of Market Street is occupied by the Medical Center in conforming architecture, and as the area is now protected by a zoning ordinance, there is every reason to expect that the extensive historical restoration program sparked by the doctors of Michigan will culminate in one of the greatest centers of early American culture. Situated as it is in a most beautiful setting, the view from the Fort providing a breath-taking experience, the Land of Beaumont and the cradle of American Physiology will continue to provide an exciting experience for the hundreds of thousands who annually visit Mackinac Island.

ALFRED H. WHITTAKER, M.D.

VALUABLE RE-ENACTMENT OF MEDICAL HISTORY

History has a way of repeating itself, and current studies of the digestive processes, being carried on in Detroit, have a remarkable similarity to those begun 125 years ago on Mackinac Island by Dr. William Beaumont.

Beaumont earned lasting medical fame and established most of what is now known about the stomach as the result of a gun-shot accident in which Alexis St. Martin was the victim. Beaumont healed St. Martin's wound, but an opening was left in the stomach through which, for many years, Dr. Beaumont observed the digestive processes.

Now, Dr. Aline U. Orten, of Wayne State University College of Medicine, has found another subject in Albert Drolet, a Detroiter, who like St. Martin has an aperture in his abdomen through which digestion can be observed.

Drolet has offered himself as a human laboratory for study, and medical scientists are watching closely the results of Dr. Orten's findings.

The circumstances in the cases of St. Martin and Drolet offer a startling coincidence. Perhaps through the Orten-Drolet combination, medical knowledge may be increased as substantially as it was through the Beaumont-St. Martin experiments.

The above editorial appeared in *The Detroit Free Press* on Friday, April 19, 1957.

THE MSMS COMMITTEE ON POSTGRADUATE MEDICAL EDUCATION

The ever-expanding field of medicine and the large amount of new information available in the prevention and treatment of disease have increased the need of the medical profession for the highest type of continuing medical education. The doctors in the state have responded to their responsibility to keep abreast of modern practice and have recognized that knowledge gained by the frequent and continued interchange of medical information at meetings in their own hospitals, county medical societies, state society programs and visits to medical centers enables them to render better medical care.

Our illustrious editor, Dr. Wilfrid Haughey, has collected many "firsts" in medicine in Michigan over the years. Among his collection is the statewide effort of the Michigan State Medical Society in the field of continuing education started in 1927. Without question, the over-all postgraduate activities in Michigan are not only a "first" but remain the best in the country.

The Committee on Postgraduate Medical Education of the Michigan State Medical Society is fully cognizant of the changing picture in the practice of medicine and the need for continued stimulation of study and the dissemination of knowledge within the confines of the community.

Because of the requests and desires of practicing physicians to deal with patients as a means of study, and since it has become well-established that greater knowledge is obtained in postgraduate medicine when patients are presented, the Committee on Postgraduate Medical Education desires to establish wet clinics in all of the centers where postgraduate activities are scheduled.

It is sincerely hoped that the local chairman will stimulate the doctors in his community to present their interesting patients at the time the postgraduate clinics are held in each and every center. The Committee on Postgraduate Medical Education urges that all doctors convey their desires as to programming in their respective communities to their local chairmen.

JOHN M. SHELDON, M.D.

IMMUNIZATION AND POLIOMYELITIS

Protection against poliomyelitis in its paralytic form has prompted many directives from our health authorities, the United States Surgeon General, State and County officers and the pediatri-

cians, urging protection of everybody up to forty years of age. Many authorities have extended that age without limit with the hope of actually wiping out poliomyelitis as a dangerous contagious disease. Reports last available have shown that nearly forty million persons in the under forty bracket remain unprotected.

The age group under five has been difficult to reach, even with the extensive propaganda used including announcements by Jonas Salk, M.D., and his co-workers. J. L. Wilson, M.D., of the pediatrics department of the University of Michigan, a couple of years ago, announced a study to determine the feasibility of combining the polio vaccine with the three-in-one vaccine being used for babies which now includes diphtheria, whooping cough and tetanus. This has now been successfully proven by numerous tests in Detroit and elsewhere.

On March 26, 1959, Surgeon General Leroy E. Burney announced the approval and licensing of the new four-in-one vaccine. Two pharmaceutical houses, Parke Davis and Co. and Merck, Sharp and Dohme, have been designated to do this work. It is expected the combined vaccine will be on the market by August, 1959.

This progressive action will care for the oncoming generation of our population. The medical profession still has the task of extending vaccination against polio to the millions yet unprotected. One suggestion made some time ago was for each doctor no matter what his specialty or type of practice to ask one question in his history taking program: "Have you been vaccinated against polio?"

THE KEOGH BILL

The Keogh Bill, renamed Keogh-Simpson in this session, was adopted by the National House of Representatives on March 16 by voice vote and already has been sent on to the Senate for approval. Last year, in the previous Congress, the Senate declined to take action claiming it came to them too late for adequate study. That excuse cannot be used this time. Information from various sources in Washington and from the *United States News and World Report,* is that Senator Byrd and his committee claim this bill would reduce the government's income from the self employed professional and business men by about $365 million. It is also projected that if the Senate should pass the measure, the President might also veto it if his budget is too far out of balance. Our members should know that this JOURNAL has been editorializing on this topic of equalizing the income tax assessment, since September 1948, when we first mentioned it. The Bill proposed at that time would set aside 15 per cent of earned income up to $10,000, whichever was the least, to be invested free of income tax, in irrevocable securities from which this taxpayer could draw pensions or annuities after he had retired. The Bill has been greatly modified. It now authorizes a 10 per cent reduction up to $2,500 and a limit of $50,000 in all during one lifetime.

The protest made by the Internal Revenue department and the Congress that this Bill would reduce the federal income is just plain begging the issue. Our friends and neighbors who are working on salaries and for industry are enjoying this tax-free provision for their retirement years and have been ever since the internal revenue act started functioning. Provision was made for corporations to set aside as part of their cost of doing business, certain sums to be invested and to produce retirement or pension incomes for their former employees. The amount of money being set aside each year for that purpose staggers the imagination. One company out of the literally thousands which are doing business can give an inkling of the present situation and it shows the reason that the self-employed people are demanding equal privileges. The United States Steel Corporation in 1958 set aside $143,992,032.00 to provide pensions and benefits for their 33,397 former employees which included an addition that year of 4,303. Part of this money in 1958 was the company's part of social security taxes—$34,669,605.00; also $26,-250,103.00 to industry, welfare and retirement funds and other employee benefit costs. These costs are all non-taxable. When employees begin drawing pensions they pay the tax as of the current date.

The Congress made provision for this exemption from income tax many years ago. The Congress owes equal consideration to the 11 or 12 million self-employed persons—doctors, lawyers, dentists, architects, ministers, engineers and others. They are now demanding it. The Keogh-Simpson Bill must pass the Senate and must be signed. The doctors and their self-employed friends in all the other professions should shower the Senators in Washington with letters and telegrams which would awaken them to the fact that a large segment of our population have been discriminated against and are tired of it.

THE FORAND BILL

This Bill was re-introduced after having received some changes at the hands of its author. Latest information from Washington, coming from numerous sources including labor, is that it is gaining strength and the pressure to pass it is very acute. A group of bureaucrats of the Roosevelt-Truman vintage are still in Washington and are going about the country making speeches to whomever will listen, including the Physician's Forum from New York City.

For the benefit of our younger members, the Physician's Forum is composed of a group of social-minded doctors and others in the New York City area who sent mail throughout the country advocating compulsory health insurance. Their mail went to "Boxholder," "Occupant" or "Resident." The Physician's Forum has been dormant for several years but seems to have been revived.

Many of our members have felt that for the past five or six years, the old threat of "socialized medicine" was dead. The Murray-Dingell Bill, in its new form, is still active. The Forand Bill would accomplish the same purpose for all persons who are receiving benefits through social security—which could mean everyone over sixty-five, and those under sixty-five who are classified as "handicapped" or "dependent," also old-age dependents.

The American Medical Association, with its governing bodies, has taken a firm stand opposing this Bill because of its obvious intent to take a few million more people away from the private practitioner.

Again the medical profession, through its specialized obligation to patients and their ills, is offering a remedy. Blue Shield has suggested an entirely new contract form to care for the senior citizens of inadequate income. The old-age care plan could obviate the need of the Forand invasion of social security.

WINDSOR MEDICAL SERVICE

News releases from the University of Michigan and from Windsor announce the publication by Harvard University Press of a 400-page book recording findings of the Windsor Medical Service. Requests for the book have not yet produced it, but the *Windsor Medical News* of March 1959 published by Windsor Medical Services, Incorporated, has some most interesting items. Here is a direct quotation:

"It was found that the plan encouraged the prompt seeking of medical care, that the much discussed abuse of home and office services under insurance is under control, and that the Windsor community regards the plan highly and is willing to pay the additional premium for the more complete protection offered by the plan.

"The plan itself is shown to be fiscally sound, administratively efficient, and at the same time adaptable to the problems of the participating physician, while personal interviews with 96 per cent of the Windsor physicians showed that generally they view the plan as a good thing for their patients and for the profession

"Plan faces $100,000 loss for 1958; reports most difficult financial year in history. While the exact economic picture for the twelve months will not be known until the final figures for November and December are in, there is nothing in the past records of these two months to indicate the present loss will be reduced."

Windsor Medical Service has just short of 200,000 members. If the experience noted were projected into Michigan Medical Service's coverage of 3,650,000, the loss would be approximately $1,900,000. This shows a proportionate loss greater than the Michigan record. The editorial in this same number of *Windsor Medical News* contains two very significant statements:

"It is not the amount that has directors of the plan worried, for it can be taken care of out of the reserve fund set up under the Ontario Department of Insurance. It is the trend."

"It may be that those who abuse this plan do not realize that they are often making things difficult for their physicians. Doctor bills are not always paid in full. They are assessed by the plan's medical department and if it is thought that certain patients received too much or unnecessary treatment, deductions are made from the submitted account.

For years, various interested persons have confronted the directors of Michigan Medical Service with demands that it be modified to more correctly correspond with Windsor Medical Service. The complete satisfaction in Windsor, both of doctors and the patients and the fact that the plan was always solvent and more efficiently administered—we should emulate the program.

We are still waiting to see the 400-page book which should have some very interesting information in the light of the quotations just made from their monthly news publication.

Please note two illuminating facts when comparing with Michigan's Blue Shield. The plan expects to recuperate its losses from Ontario Department of Insurance, also deductions are made from doctors' bills submitted.

THE AMA

BLUE SHIELD

SENIOR CITIZENS

In an address before the national Blue Shield Professional Relations Conference in Chicago on February 9, Dr. Louis M. Orr of Orlando, Florida, President-Elect of the American Medical Association, urged physicians to "recapture the pioneering spirit" by utilizing their Blue Shield Plans to solve the problem of providing prepaid medical care to our senior citizens.

"Medicine has done a fair job in the past" in meeting the health needs of our older citizens, Dr. Orr said. And it is now "preparing to set in motion a positive program for older citizens that will take into consideration . . . not only the health and physician needs, but their social, economic, occupational and psychological requirements." This, he pointed out, cannot be done by any huge federal spending program.

Dr. Orr called attention to the fact that proposed legislation of the Forand type would "completely alter the nature of the Social Security program," because for the first time, it would add personal services to a program that is now limited to cash benefits. "This new principle," he warned, "would open the door for evolution of a system of tax-paid health care for the entire nation. Indeed, it would establish the principle that provision of medical care for any segment of the population, or all of it, is a federal function."

Pointing out that more than 40 per cent of the people over sixty-five are already covered by voluntary health insurance, and commending Blue Shield, Blue Cross and the insurance companies for their achievements in this field, nevertheless Dr. Orr said:

> "Let's not live on past accomplishments. Let's not have America's health team become a mutual admiration society in which each member periodically lauds the other fellow for his plans, his surveys, and his continuing studies of the aged problems. Our individual jobs are *to think* and *to create, to develop* programs and then to put our sound ideas into *action*.
>
> "I am gratified that Blue Shield has been one of the first to pledge its all-out co-operation in working with the medical profession to do an effective job in providing medical care for the aged, especially the lower income groups."

PROGRESSIVE MYOPIA

At a recent ophthalmological meeting, the problem of contact lenses and their fitting was discussed. One of the audience asked, "Will contact lenses delay or correct progressive myopia?" The answer was "No." Considerable discussion and questions on progressive myopia followed to the professor of ophthalmology: "What do you do?" Answer: "I pray."

This recalled a meeting and a discussion in 1942 at the Discussion Conference of the Section on Ophthalmology at the Annual Meeting of the Michigan State Medical Society in Grand Rapids, with an attendance of about fifty. Parker Heath, M.D., then of Detroit, now of Harvard, presiding, asked the question, "What do any of you do for progressive myopia?" Meyer Wiener, M.D., of St. Louis, who was the guest essayist, Dr. Heath, and the writer responded. The writer was the first one to describe his experience which took place in the 1920's.

He had three patients, children of a father with a very high degree of myopia (—10.00 lenses). The corrections of these children had been changing—progressing in the strength of the minus correction. One of the girls developed a vernal catarrh with constantly red eyes, inflamed conjunctiva and stuffy nose. No treatment seemed to avail.

On the presumption that this child's condition could be an allergy, adrenalin drops (1/1000) were prescribed, and at the next check-up six or eight months later, there had been no increase in the myopic correction, whereas the other two children had. Immediately the other children were instructed to use the adrenalin drops and come back in six months for a recheck. None showed progress of the myopia. Since that time, the writer has been using that treatment when a myopic patient shows an increase of myopic correction following the last previous prescription. After this treatment, it is very seldom that any increase is shown —more than a variation of a quarter of a diopter. When we do find such a variation, questioning usually shows that the patient has neglected the drops—even discarding them, thinking they were a needless task which could be neglected.

At the meeting in 1942, Dr. Meyer Wiener said that about five years previously, he had discovered that patients using adrenalin (1/1000) in their eyes regularly very seldom showed an increase in myopia. Dr. Parker Heath reported the same

experience. Both of them had stumbled on it while treating for other conditions. The writer has pondered what the physiology is and what happens. He believes the instillation of adrenalin helps to promote drainage from the inside of the globe and possibly in that way lessens the extension in length of the eyeball, which is the philosophy of progressive myopia. Would the use of pilocarpin give the same response? An interesting question, but the author does not believe in experimenting when the treatment he is now using is still giving such remarkable success.

WILFRID HAUGHEY, M.D.

HIGHWAY DEPARTMENT IS ON THE WARPATHS

Indians blazed the trails for Michigan's new trunkline construction program centuries ago, according to Wayne State University archivist Philip P. Mason.

"With few exceptions, our modern highways follow old Indian paths," said Dr. Mason. "Indians were the trailblazers for the State's expressway network."

He states that Indian trails were only 12 to 18 inches wide when the Indians used them. This provided sufficient room for single-file travel. They were gradually widened as the pack horse, the wagon and finally the automobile made it necessary.

The five-year trunkline construction program now under way will widen the old paths into 300-foot-wide expressways.

Originally the trails were used as links between waterways and, during the settlement period, as paths of attack against villages. Michigan's most famous footpath was the Great Sauk Trail. Now US 112, it links Detroit and Chicago.

Travelers on the main route between Detroit and Muskegon in frontier days called it Grand River as they do today. St. Joseph Trail has become US 12, running from Detroit to St. Joseph.

The Saginaw Trail is today's US 10, and an old Indian trail from Detroit to Port Huron is now known as US 25.

Other Indian trails have become the highways to Mackinaw City, Cheboygan and Traverse City.

Prior to joining Wayne State's staff in February, Dr. Mason was archivist for the Michigan Historical Commission. He recently wrote a series of articles on highway development for the Highway Department.

MICHIGAN STATE MEDICAL SOCIETY TREASURER'S REPORT—DECEMBER 1, 1957 TO NOVEMBER 30, 1958

Pursuant to my appointment as Treasurer, by The Council in January 1958, I am submitting my report of stewardship.

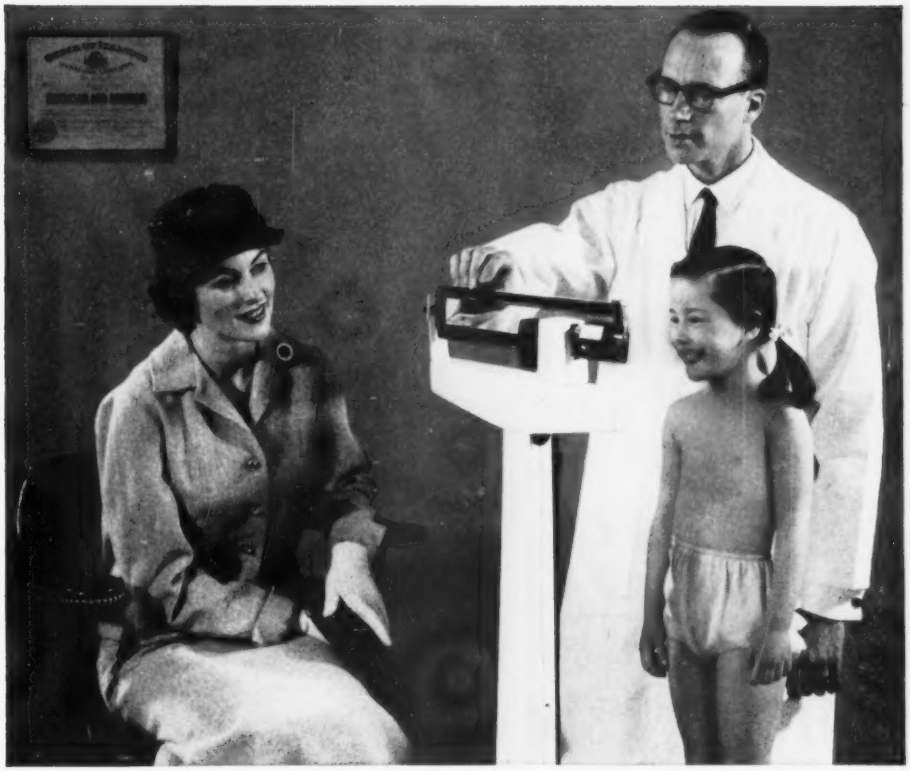
As indicated by Knostman and Smith in January, 1958, the transactions of the office of the Treasurer were verified for the year ending November 30, 1957.

Balance on hand December 1, 1957	$15,122.70
Deposits 12-1-57 to 11-30-58	8,419.10
Showing balance of	$23,541.80
Less withdrawals during year of 12-1-57 to 11-30-58 (authorized by Executive Committee 12-57)	$16,000.00
Cash balance at close of period 12-1-57 to 11-30-58	$ 7,541.80

Included in this report are the numbers of Certificates of deposits and U. S. Government bonds in possession of the treasurer, in Lock Box 121 of Michigan National Bank located in Grand Rapids.

1—$5,000 G Bond, dated March, 1948, their No. V799-030	$ 5,000
4—$1,000 K Bonds, dated August, 1954, their No. 262-323K, 262-324K, 262-325K, 262-326K	4,000
8—$1,000 2¾% Treasury Bonds 75-80, Nos. 17469K, 17470L, 17471A, 17472B, 17473C, 17474D, 17475E, 17476F	8,000
1—$30,000 Michigan National Bank Savings Deposit Receipt, No. 1753, dated August 27, 1958	30,000
3—$5,000 Michigan National Bank Savings Deposit Receipts, Nos. 1160, 1161, 1162, dated October 24, 1957	15,000
1—Michigan National Bank Certificate of Deposit No. 644, dated March 13, 1957	40,000
1—Michigan National Bank Savings Certificate, No. 1628 dated 5-29-58, replacing a government bond of $5,000 called in May, 1958	5,062.50
1—Michigan National Bank Safekeeping Receipt No. 4378, $25,000 United States of America 2½% Treasury Bonds dated February 15, 1954, due November 15, 1961, held by the First National Bank in Chicago	25,000
1—Michigan National Bank Safekeeping Receipt No. 4536, $35,000 United States of America 2½% Treasury Bonds, dated 2-15-54, due 11-15-61	35,000
1—Michigan National Bank Safekeeping Receipt No. A864, $25,000 United States of America 2½% Treasury Bonds, due June 15, 1962, held by the First National Bank in Chicago	25,000
1—Michigan National Bank Safekeeping Receipt No. A726, $10,000 United States of America 2½% Treasury Bonds, due March 15, 1970, held by the First National Bank in Chicago	10,000
Michigan National Bank Safekeeping Receipt No. A718, 5 Series K Savings Bonds, Nos. Y54-843K-846K inclusive, V49-459K, issued June 18, 1954, 12-year maturity	45,000
1—Savings Certificate No. 1737, Purchased 10-7-57, was turned over to Mr. Roney on 11-7-58 for ready cash purposes	25,000
1—Savings Certificate No. 1350, Purchased on 2-10-58, sent to Mr. Roney on 11-23-58 (these were of short duration to earn interest until needed for ready cash purposes)	40,000

Respectfully submitted:
WILLIAM A. HYLAND, M.D., *Treasurer*
Michigan State Medical Society



Underweight Children Gain and Retain Weight with Nilevar®

One of the most convincing evidences of the anabolic activity of Nilevar, brand of norethandrolone, has been its ability to improve appetite and increase weight in poorly nourished, underweight children.

A highly important feature of the weight gain thus produced is that it is not ordinarily manifested by deposition of fat but as muscle tissue resulting from the protein anabolism induced by Nilevar.

Anorexia and "Weight Lag" Study—Brown, Libo and Nussbaum have reported* consistent and definite increases in rate of weight gain in eighty-six patients, ranging in age from 7 weeks to 15½ years. This beneficial action of Nilevar was observed in the patients with organic and traumatic disorders as well as those whose only complaints were poor appetite and/or persistent failure to gain weight.

In this study, the weight gained was not lost after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

G. D. Searle & Co., Chicago 80, Illinois.
Research in the Service of Medicine.

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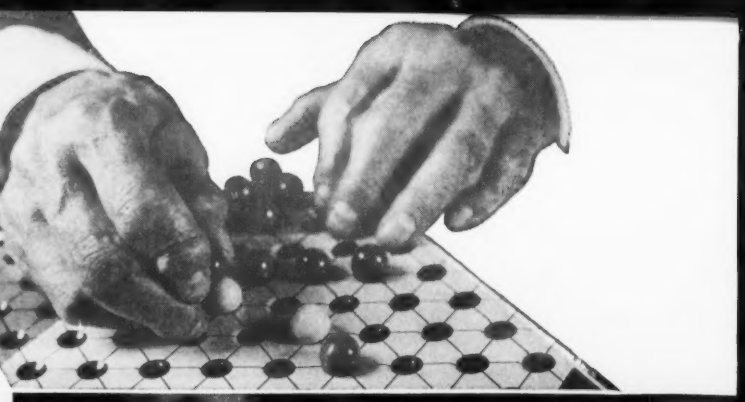
*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

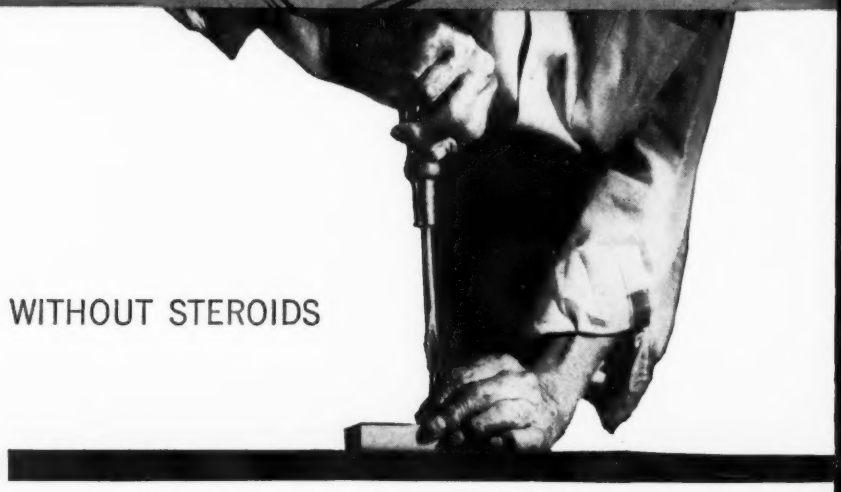
WITHOUT STEROIDS



In every arthritic state...

WITHOUT STEROIDS

WITHOUT STEROIDS



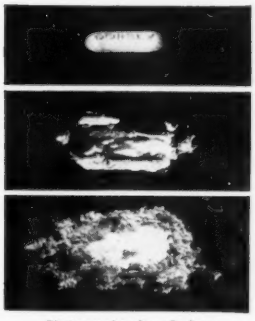
MAINTENANCE THERAPY WITHOUT STEROIDS IS FUNDAMENTAL

Sound, conservative therapy with salicylates has been consistently reaffirmed as basic, long-term maintenance therapy in the arthritides.

Buffered Pabirin provides superior maintenance therapy. It epitomizes fundamental long-term basic therapy since it can be given month after month without serious complications and with minimal problems to patient and doctor alike.

Buffered Pabirin is formulated to provide high and sustained salicylate blood levels. Each tablet consists of an outer layer containing a buffer (aluminum hydroxide), para-aminobenzoic acid, and ascorbic acid; a core of acetylsalicylic acid.

In the stomach, the outer layer quickly releases the buffer, which protects against nausea, dyspepsia and other gastrointestinal symptoms so frequently encountered with salicylates alone. The core of Buffered Pabirin then disintegrates rapidly, permitting rapid absorption of the acetylsalicylic acid for faster pain relief.



Photographs show 2-stage Tandem Release disintegration.

Each tablet contains:
Acetylsalicylic acid (5 gr.).....300 mg.
Para-aminobenzoic acid (5 gr.)....300 mg.
Ascorbic acid ..... 50 mg.
Dried aluminum hydroxide gel....100 mg.

All Buffered Pabirin is sodium- and potassium-free.

Dosage: Two or three tablets 3 or 4 times daily.

References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

Buffered **Pabirin®** *Tablets*

SMITH-DORSEY · a division of The Wander Company · Lincoln, Nebraska · Peterborough, Canada

Michigan's Department of Health

Albert E. Heustis, M.D., Commissioner

DIAGNOSTIC TESTS FOR VIRUS INFECTIONS

The division of Laboratories announces as of March 15, the availability of the following virus diagnostic tests in its Virology Unit in Lansing:

1. *Complement Fixation Tests* for influenza, poliomyelitis, mumps, lymphocytic choriomeningitis, Q fever, measles, respiratory illness caused by adenovirus and hemadsorption viruses, encephalitis (St. Louis, Western and Easter equine encephalomyelitis), and psittacosis.
   Required: History on Form 158; serum taken at onset of illness and twenty-one days later for all but poliomyelitis tests; for poliomyelitis, serum taken at onset and thirty days later.
2. *Virus Isolation—Influenza*
   Required: Throat washings in 20 ml of distilled water or skimmed milk; history on Form 158. *No other virus isolation procedures are available.*

Available by arrangement with the U. S. Public Health Service.—Complement fixation tests for rickettsiae and herpes infections—acute and convalescent specimens and clinical history required.

Viral diagnostic tests not available for infections with ECHO and coxsackie viruses.—History Forms F-158 are available on request from the Division of Laboratories, Michigan Department of Health, Lansing 4, Michigan.

Procedures for Referral to the Clinical Center of the National Institutes of Health

The Clinical Center of the National Institutes of Health at Bethesda, Maryland, is accepting a limited number of patients each month for study and therapy. Patients are admitted *only* on referral by a physician.

The National Institutes of Health is the research arm of the Public Health Service and is composed of seven Institutes concerned specifically with basic laboratory investigations and research in the fields of cancer, cardiovascular disease, mental health, neurological diseases and blindness, arthritis and metabolic diseases, allergy and infectious diseases, and dental health. The Clinical Center is a modern facility shared by all Institutes for combined laboratory and clinical study programs.

Procedure for Referral of Patients

To request admission of a patient, physicians should submit a brief summary of the medical history and current situation. This should be in writing, although preliminary inquiries may be and frequently are made by phone. There are no "application forms" to be filled out.

When the referring physician is certain of the Institute, individual investigator, or research group that is likely to be interested in his patient, he may communicate directly with the appropriate person or organization.

If he is not certain as to which Institute or research group might be interested, or if it is possible that more than one Institute might be interested, his communication should be addressed to the Office of the Director of the Clinical Center for circulation among the potentially interested Institutes.

Telephone calls should be directed to the Pre-admissions office, Ext. 746.

Eligibility Requirements

1. The patient's specific disease or other condition must be under active investigation by National Institutes of Health physicians at the time of admission.

2. The patient must be referred by his own physician or by a qualified physician in a hospital, clinic, or other medical organization.

3. Factors which have to be taken into consideration by the National Institutes of Health, and which may vary with different studies, are age, weight, sex, general health, and length of existing waiting list of qualified patients. Possibilities for long-term in-patient status or extended follow-up observations, or both, may be important criteria. There are no residential or citizenship requirements and no restrictions based on race, creed, or color.

4. The patient must have a reasonable understanding of his role in a research study and be willing to participate.

5. The selection of non-competent patients (for psychiatric studies) because of special procedures involved, is limited almost entirely at present to those individuals already a part of the patient population of a mental hospital authorized to receive committed patients.

Length of Stay

It must be clearly understood by all concerned that admission to the Clinical Center is for research purposes only, and that the patient will be returned to the care of his referring physician or institution, or to his family when his participation in a study has been completed and his medical condition permits. Acting on behalf of the Director, National Institutes of Health, the Clinical Director of the Institute in which the patient is under study is responsible for making these determinations.

Clinical Studies

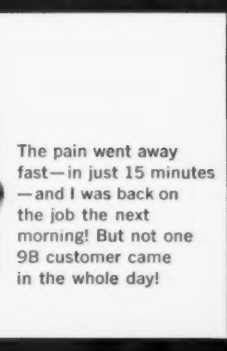
The principal study projects for which patients will be admitted during the current period, together with some of the more important diagnostic or other criteria are described in a brochure which is available to hospitals, clinics, medical schools and individual physicians on request.

REACHING FOR THOSE 9B's NEARLY PUT ME ON THE SHELF...

Reaching for 9B shoes and other top shelf sizes is no joke . . . it gave me a terrible kink in my back.

Before the day was over, I could hardly stoop to push a shoehorn.

I called my doctor that night and picked up the tablets he prescribed.



The pain went away fast—in just 15 minutes—and I was back on the job the next morning! But not one 9B customer came in the whole day!

Percodan®-Demi & Percodan® *Tablets*

Salts of Dihydrohydroxycodeinone and Homatropine, plus APC

FOR PAIN

ACTS FASTER — usually within 5-15 minutes. **LASTS LONGER** — usually 6 hours or more. **MORE THOROUGH RELIEF** — permits uninterrupted sleep through the night. **RARELY CONSTIPATES** — excellent for chronic or bedridden patients. **VERSATILE** — new "demi" strength permits dosage flexibility to meet each patient's specific needs. PERCODAN-DEMI provides the PERCODAN formula with one-half the amount of salts of dihydrohydroxycodeinone and homatropine.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit-forming. Federal law permits oral prescription.

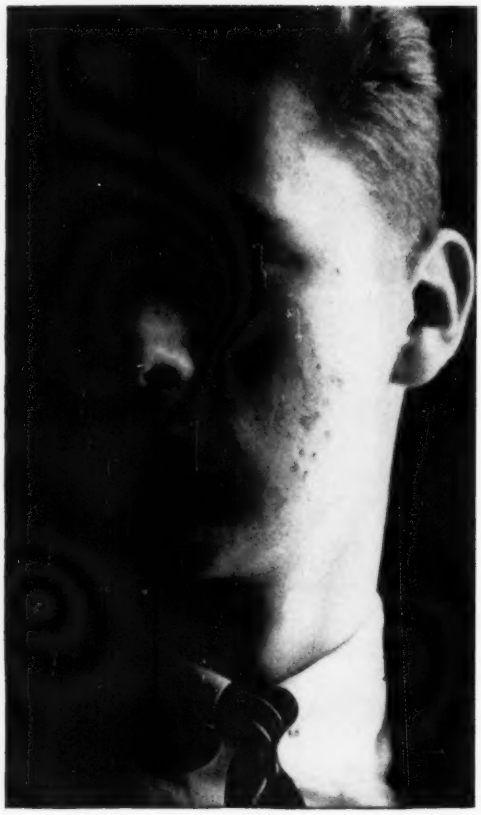
Each PERCODAN® Tablet contains 4.50 mg. dihydrohydroxycodeinone hydrochloride, 0.38 mg. dihydrohydroxycodeinone terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. phenacetin, and 32 mg. caffeine.

AND THE PAIN WENT AWAY FAST

Endo®

Literature? Write
ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Pat. 2,628,185



in Acne

Routine cleansing with pHisoHex augments standard acne therapy. "No patient failed to improve."[1] pHisoHex helps check the infection factor in acne. Used exclusively and frequently, it will keep the skin surface virtually sterile. Contains 3 per cent hexachlorophene.

pHisoHex®

(antibacterial detergent, nonalkaline, nonirritating, hypoallergenic)

tips the balance for superior results

Winthrop LABORATORIES
New York 18, N. Y.

1. Hodges, F. T.: GP 14:86, Nov., 1956.

In Memoriam

HARRY R. EGGLESTON, M.D., fifty-eight, Grand Rapids physician, died March 3, 1959.

A native of Rockford, he attended school there and was graduated from the Detroit College of Medicine.

Doctor Eggleston was on the staff of St. Mary's hospital and a member of St. Alphonsus Church and the Holy Name Society.

RALPH B. FAST, M.D., sixty-one, Kalamazoo eye, ear, nose and throat specialist, died March 24, 1959.

A 1922 graduate of the University of Michigan Medical School, Doctor Fast had practiced in Kalamazoo since 1926 and was on the staffs of Borgess and Bronson Hospitals.

He was a past president of the Kalamazoo Academy of Medicine and a member of Phi Rho Sigma Fraternity.

CARL A. FETTIG, M.D., eighty-three, Detroit general practitioner, died March 3, 1959.

Doctor Fettig was born in Detroit, was a graduate of the 1899 class of the Detroit College of Medicine and had practiced in Wayne County for fifty-five years.

He was a member of the Oriental Lodge No. 240, F&AM, the Moslem Temple, the Detroit Boat Club and the Grosse Pointe Unitarian Church.

NORMAN A. FLEISCHMAN, M.D., fifty, Muskegon surgeon, died March 30, 1959.

Doctor Fleischman was a graduate of the 1930 class of the University of Michigan Medical School.

At the time of his death, he was President of the Muskegon County Medical Society and a physician for the State Boxing Commission.

He was a member of the American College of Surgeons and the International College of Surgeons.

GEREON FREDERICKSON, M.D., sixty-four, Iron Mountain physician, died February 22, 1959.

Born in Iron Mountain, Doctor Frederickson took his premedical education at Valparaiso, Indiana, before receiving his medical degree from Loyola University, Chicago.

During World War I, he served as a first lieutenant with the U. S. Army Medical Corps.

He began his practice at Iron Mountain in 1919, served twenty-two years on the board of education, was school physician and served as director of the Dickinson County health department.

A charter member of the Iron Mountain-Kingsford Kiwanis Club since 1925, Doctor Frederickson was its

(Continued on Page 812)

in

HAY FEVER

Family Physicians use

specific desensitization for *lasting immunity

. . . easily, pleasantly and economically

SPECIFIC DESENSITIZATION . . .

is easily accomplished, quickly and accurately by any physician. Simply scratch test each patient by using activated Barry allergens to determine what offends the patient. Then send a list of these offenders with their reactions to Barry for the preparation of a specific desensitization formula which promotes *lasting active immunity*. For scratch testing your patient, use the Barry Pollen-Pack containing 21 tests of Tree, Grass and Weed pollens including Fungi and House Dust, all botanically correct for your locality. Safe, simple, time-proven technique complete with directions for your nurse.

LASTING ACTIVE IMMUNITY . . .

is obtained by desensitizing patients for the specific irritants to which your patient reacted by the scratch test. Each desensitization formula is individually prepared for each patient according to his own needs based upon the list of irritants that you supply and the degree of reaction of each. Specific desensitization immediately *promotes active immunity* lasting longer than any other known medication. Each specific treatment is prepared in a three vial serial dilution set (20 doses) and includes a personalized treatment schedule indicating the correct interval to use between injections. For patients that have already been skin tested by any means, send their list of offenders to the Allergy Division. Prompt 7-10 day service for all Rx's.

*write for free literature

FREE
Scratch Test Set
with each Rx Specific Desensitization Set prepared according to your patient's own skin test reactions.

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Allergy Division
DETROIT 14, MICHIGAN

BARRY
since 1928

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CONTINUOUS OR PULSED ULTRASOUND

and ELECTRICAL STIMULATION

BURDICK'S { UT-400 MS-300 COMBINATION

Simultaneous use of the Burdick UT-400 Ultrasound unit and the new MS-300 Muscle Stimulator offers a new dimension in ultrasonic therapy—combining the massage action of electrical stimulation with the established physiological effects of ultrasound.

For complete information call your Burdick representative or write us.

The MS-300 Stimulator has been approved by the F.C.C. for use in conjunction with the UT-400 Ultrasound unit.

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GEREON FREDERICKSON, M.D.

(Continued from Page 810)

president in 1936 and in 1950 was named lieutenant-governor for the Wisconsin-Upper Michigan District of Kiwanis.

He was also a member of the Elks Lodge, a 32nd degree Mason and Knight Templar.

EDWARD V. HOWLETT, M.D., eighty-three, Pontiac surgeon, died March 12, 1959.

Born in Gregory, Doctor Howlett was a graduate of the University of Michigan Medical School in 1902.

Prior to moving to Pontiac in 1910, he practiced medicine in Trimountain in the Upper Peninsula.

He was a former chief of staff at Pontiac General Hospital and was a Fellow of the American College of Surgeons and the Academy of International Medicine.

Doctor Howlett was a member of the Rotary Club of Pontiac and the Orchard Lake and Pine Lake country clubs.

M. RUTH McGUIRE, M.D., sixty-five, Detroit obstetrician and gynecologist, died March 22, 1959.

Doctor McGuire was a native of Holstein and the wife of William J. Mattimore, an advertising executive.

She was a graduate of the University of Illinois, interned at Women's and Children's Hospital, Boston, and took residence training at Lying-In Hospital, Chicago.

Doctor McGuire had practiced in Detroit since 1930 and was on the staff of Women's Hospital and the Merrill-Palmer School.

LUNETTE I. POWERS, M.D., eighty-three, Muskegon physician, died March 24, 1959.

A graduate of Northwestern University, she had practiced medicine fifty-nine years, all but three in Muskegon.

The Michigan State Medical Society named her "Foremost Family Physician" in 1950.

Today it is known that a number of cancers are initiated by exposure to various environmental or exogenous agents, usually over an extended period of time. All such cancers definitely belong in the class of preventable diseases in the strict sense of the term.

. . .

The mental attitude of every individual toward cancer is an important factor in the control of the disease.

. . .

Reduction of the delay period between onset of cancer diagnosis and initiation of treatment is one of the major responsibilities of cancer control.

. . .

It is the patient's responsibility to watch for those signs of cancer which can be seen or felt and, if he notes them, to go immediately to a physician.

. . .

The key to the control of breast cancer lies in the hands of women themselves.

2½ minutes of your time reading about Trancopal may change your prescription habits when treating musculoskeletal and psychogenic disorders.

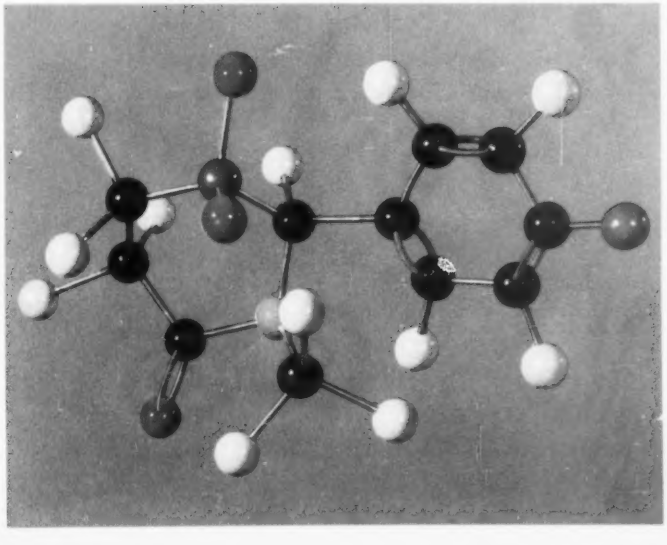
Trancopal®

*the first true tranquilaxant**

***Potent* MUSCLE RELAXANT**

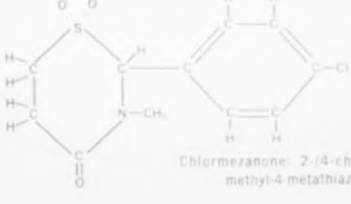
***... Equally effective as a* TRANQUILIZER**

* **tran-qui-lax-ant** (tran'kwi-lak'sant) [< L. tranquillus, quiet; L. laxare, to loosen, as the muscles]



Trancopal, a major development of Winthrop research, is a new orally administered nonhypnotic central relaxant and tranquilizer. It relieves muscle spasm in a variety of musculoskeletal and neurologic conditions and also exerts a marked tranquilizing effect in anxiety and tension states.

Unrelated chemically to any other drug in current use, Trancopal offers a completely new major chemical contribution to therapeutics.



Chlormezanone: 2-(4-chlorophenyl)-3-methyl-4-metathiazanone-1-dioxide

Thoroughly evaluated clinically...

Clinical studies of 4092 patients by 105 physicians[1] have demonstrated that Trancopal often is effective when other drugs have failed. From these studies it is evident that Trancopal can provide more help for a greater number of tense, spastic, and/or emotionally upset patients than can any other chemotherapeutic agent in current use.

In musculoskeletal conditions[1]

effective in **91%** of patients

INDICATIONS

Low back pain (lumbago)
Bursitis
Osteoarthritis
Fibrositis
Myositis
Postoperative myalgias
Neck pain (torticollis)
Rheumatoid arthritis
Disk syndrome
Joint disorders (ankle sprain, tennis elbow, etc.)

By relieving muscle spasm and pain, Trancopal permits early and active purposeful exercise and physical therapy to accomplish maximal benefits for rapid recovery.

Trancopal

Dosage: One Caplet (100 mg.) orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours.

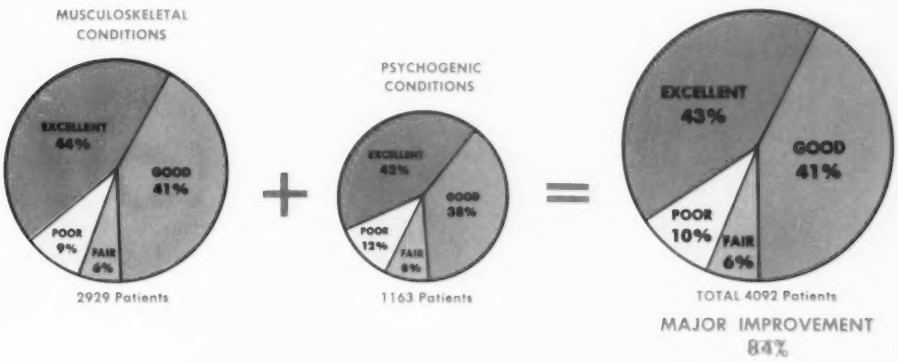
In anxiety and tension states[1]

effective in 88% of patients

INDICATIONS

Anxiety and tension states	Dysmenorrhea
Premenstrual tension	Asthma
Emphysema	Angina pectoris

Because of its exceptional calmative property, Trancopal "...allows the patient to use his energies in a more productive manner in overcoming his basic problem."[2]



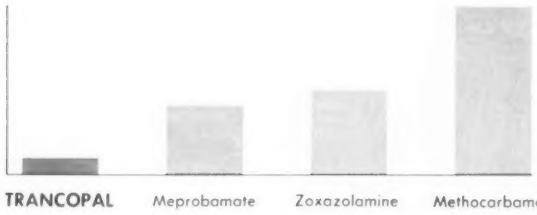
Of the total patients treated, Trancopal produced excellent results in 43 per cent, good results in 41 per cent, fair results in 6 per cent, and poor results in 10 per cent.

Better tolerated and safer than older drugs[3]

With Trancopal there is no clouding of consciousness, no euphoria or depression. Even in high dosage, there is no perceptible soporific effect. Because it does not irritate gastric mucosa, it can be taken without regard to mealtimes. Administration does not hamper work — or play. There are no known contraindications. Blood pressure, pulse rate, respiration and digestive processes are unaffected by therapeutic dosage.
Toxicity is extremely low. And Trancopal has a lower incidence of side effects than has zoxazolamine, methocarbamol or meprobamate.

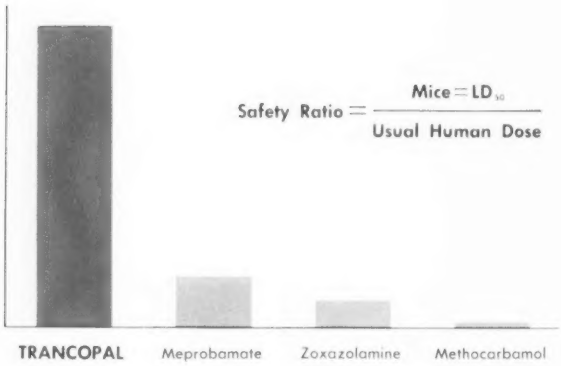
Comparison with 3 widely used central relaxants

When compared with three widely used central relaxants for activity, safety and clinical effectiveness, Trancopal offers definite desirable advantages.



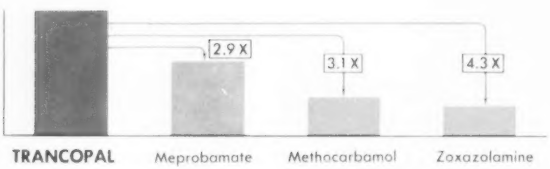
for activity

In the usual human dose, Trancopal is four to ten times as potent per milligram.



for safety

Comparative pharmacologic tests showed that Trancopal is up to thirteen times as safe or up to thirteen times less toxic. The measure of safety was the LD_{50} in mice/usual human dose.



for clinical effectiveness

A clinical comparison in low back pain, torticollis, bursitis and anxiety states showed that Trancopal is up to four times as effective. Each of the 40 patients received all four drugs in random rotation for several days. Although each of the four gave some relief, only the one providing the most effective relief was recorded.

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

References: 1. Cooperative Study, Department of Medical Research, Winthrop Laboratories. • 2. Gans, S.E.: To be published. • 3. Lichtman, A.L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958.

the first true tranquilaxant

Trancopal

Potent
MUSCLE RELAXANT
...Equally effective as a
TRANQUILIZER

Winthrop Laboratories / New York 18, New York

Trancopal (brand of chlormezanone) and Caplets, trademarks reg. U.S. Pat. Off.

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NEW VIGRAN CHEWABLES

SQUIBB MULTIPLE VITAMIN SOFT TABLETS

fruit-punch flavored tablets that will actually "melt in the mouth"

can be chewed like candy

can be crushed and sprinkled on cereal or other food

can be dissolved in water, juice or milk

can be sucked and will dissolve like a lozenge

can be easily swallowed (small tablet size)

VIGRAN CHEWABLES *taste like candy*, but contain *no ingredients harmful to teeth.* Important, too, is that VIGRAN CHEWABLES *dissolve easily* in the mouth and *smell good.* These advantages will also appeal to your elderly patients. And VIGRAN CHEWABLES provide at least 125% of the minimum daily requirements for vitamins A, D, B_1, B_2, niacinamide and C, and significant amounts of other essential vitamins.

Each VIGRAN CHEWABLE tablet contains:

Vitamin A	5,000 U.S.P. units
Vitamin D	1,000 U.S.P. units
Vitamin C	75 mg.
Vitamin B_1	3 mg.
Vitamin B_2	3 mg.
Vitamin B_6	2 mg.
Niacinamide	25 mg.
Calcium Pantothenate	3 mg.
Vitamin B_{12}	5 mcg.

Available in Rx-size bottles of 30 and 90.

SQUIBB *Squibb Quality— the Priceless Ingredient*

*Vigran® is a Squibb trademark

. . . . . NEWS MEDICAL

MICHIGAN AUTHORS

Charles K. Sergeant, M.D., Joseph L. Ponka, M.D., and **Brock E. Brush, M.D.,** Detroit, are the authors of an article entitled "Effect of Antibacterial Agents on Clean Wounds," published in A.M.A. *Archives of Surgery*, March, 1959.

John M. Weller, M.D., Ann Arbor, is the author of an article entitled "The Importance of Dietary Sodium in the Etiology of Essential Hypertension," published in the *Illinois Medical Journal*, March, 1959.

Robert J. Bolt, M.D., Arthur B. French, M.D., and **H. Marvin Pollard, M.D.,** Ann Arbor, are the authors of an article entitled "Malabsorption Syndromes," published in *GP*, March, 1959.

Peter A. Martin, M.D., Detroit, is the author of an article entitled "A Psychotic Episode Following a Dream," read as "Symptom, Dream, Transference, and Psychosis" at the annual meeting of the American Psychoanalytic Association in Chicago, May, 1957, and published in *The Psychoanalytic Quarterly*, 27:563-567, 1958.

Carey P. McCord, M.D., Ann Arbor, is the author of an article entitled "The Zooanthroponoses as Occupational Diseases in the United States," presented before the Institute on Veterinary Public Health, University of Michigan, Ann Arbor, October, 1958, and published in *Industrial Medicine and Surgery*, April, 1959.

Donald T. Forman, M.D., Daisy McCann, M.D., R. B. Hahn, M.D., R. E. Mosher, M.D., A. J. Boyle, M.D., Detroit, are the authors of an article entitled "A Study of Arterial Phosphorus in Experimentally Induced Atherosclerosis," published in *Industrial Medicine and Surgery*, April, 1959.

Richard N. Moersch, M.D., and **F. Henry Ellis, Jr., M.D., F.A.C.S.,** Rochester, Minnesota, and **John R. McDonald, M.D.,** Detroit, Michigan, are the authors of an article entitled "Pathologic Changes Occurring in Severe Reflux Esophagitis," published in *Surgery, Gynecology and Obstetrics*, April, 1959.

Meyer O. Cantor, M.D., F.A.C.S., Detroit, is the author of an article entitled "Obstructing Eosinophilic Granuloma of the Stomach Associated with Arteriomesenteric Duodenal Compression," published in the *Journal of the International College of Surgeons*, March, 1959.

Edwin M. Knights, Jr., M.D., James S. Brush, M.D., and **John Schroeder,** Flint, are the authors of an article entitled "Simplified Screening Test for Cystic Fibrosis of the Pancreas," published in the *Journal of the American Medical Association*, March 21, 1959.

Ralph Cash, M.D., Reuben I. Shapiro, M.D., Stanley H. Levy, M.D., and Scovell M. Hopkins, M.D., Detroit, are the authors of an article entitled "Chelating Agents in the Therapy of Beryllium Poisoning," published in the *New England Journal of Medicine*, April 2, 1959.

Seward E. Miller, M.D., Ann Arbor, and **Harold Brandaleone, M.D.,** New York, are the authors of an article entitled "Medical Guide for Physicians in Determining Fitness to Drive a Motor Vehicle," read in the Session on Traffic Accidents before the Section on Miscellaneous Topics at the 107th annual meeting of the American Medical Association, San Francisco, June 25, 1958, and published in the *Journal of the American Medical Association*, April 4, 1959.

Alex S. Friedlaender, M.D., Sidney Friedlaender, M.D., and **Lawrence Weiner, M.D.,** all of Detroit, are authors of a paper "Gamma Globulin in Asthma Associated with Infection," presented by Dr. Sidney Friedlaender at the Third International Congress of Allergology in Paris.

Permission has been granted to the *American Association of Industrial Nurses Journal* to reprint the article by **Kermit T. Johnstone, M.D.,** of Saginaw, entitled "Injury Reduction by Identification of the Accident-prone Worker," which appeared in the January, 1959, issue of THE JOURNAL of the Michigan State Medical Society.

* * *

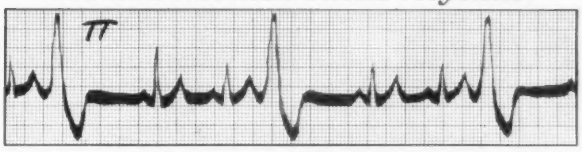
New Pharmacy Research Building. — The National Institute of Health approved a grant of $322,000 to

(Continued on Page 820)

THE COVER

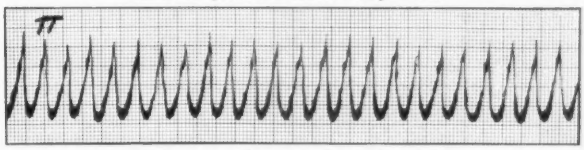
The beautiful Dean Cornwell painting of "Beaumont and St. Martin," is reproduced in four colors through the cooperation of Wyeth, Incorporated, of Philadelphia. Wyeth presented this portrait to the Michigan State Medical Society in 1952, for use in the Beaumont Memorial at Mackinac Island.

restore normal sinus rhythm



1. Premature ventricular contractions

2. Paroxysmal auricular tachycardia



3. Paroxysmal ventricular tachycardia

in arrhythmias

VISTARIL*

hydroxyzine pamoate

More than a tranquilizer

SPECIFIC ANTIARRHYTHMIC EFFECT

Vistaril is effective in ventricular extrasystoles and paroxysmal tachycardias (both auricular and ventricular).

plus

PSYCHOTHERAPEUTIC POTENCY

proven calming action indicated for arrhythmia patients.

and

THE OUTSTANDING SAFETY

of Vistaril as compared to other antiarrhythmic drugs in general use has been noted by investigators.

THE FOLLOWING DOSAGE REGIMEN IS RECOMMENDED

(individualized by the physician for maximum effectiveness):

PARENTERAL DOSAGE: 50-100 mg. (2-4 cc.) I.M. stat., and q. 4-6 h., p.r.n.; maintain with 25 mg. b.i.d. or t.i.d. In acute emergency, 50-75 mg. (2-3 cc.) I.V. stat.; maintain with 25-50 mg. (1-2 cc.) I.V. q. 4-6 h., p.r.n.

ORAL DOSAGE: Initially, 100 mg. daily in divided doses until arrhythmia disappears. For maintenance or prophylaxis, 50-75 mg. daily in divided doses.

SUPPLY: Vistaril Capsules, 25 mg., 50 mg. and 100 mg. Vistaril Parenteral Solution, 10 cc. vials and 2 cc. Steraject® Cartridges. Each cc. contains 25 mg. (as the hydrochloride).

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References: 1. Burrell, Z. I., et al.: Am. J. Cardiol., 1:624 (May) 1958. 2. Hutcheon, D. E., et al.: J. Pharmacol. & Exper. Therap., 118:451 (Dec.) 1956.

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(Continued from Page 818)

The University of Michigan's College of Pharmacy for construction of a pharmacy research building on the Ann Arbor campus.

The grant is the largest given by the Institute to any pharmacy school, and will make possible the first building at any university devoted entirely to pharmaceutical research.

The University plans to erect a four-story structure, attached to a wing of the East Medical building, at the corner of Church Street and Washtenaw Ave. Construction is expected to start this summer and the building will be completed in about one year.

The greatest portion of space in the new building will be devoted to research laboratories accommodating two to four investigators, chiefly graduate students.

The nation, within the next five years will need about 600 new people with Ph.D. degrees in pharmacy for positions in teaching and industry. At the current pace, the whole country will graduate only about sixty Ph.D. pharmacists each year. A means has to be found to double this number, and this grant from the National Institute of Health is a long step in the right direction.

Officials estimate that the Pharmacy Research Building will cost about $800,000. Dean Rowe said the balance of some $478,000 will be sought from foundations, pharmaceutical manufacturers, alumni and friends.

* * *

The Windsor Plan Report—The complete report by three University of Michigan health specialists on the "Windsor Plan" of comprehensive medical care has just been published by Harvard University Press.

Titled "Comprehensive Medical Services Under Voluntary Health Insurance," the book analyzes the health plan instituted in Windsor, Ontario, Canada.

Authors are Benjamin J. Darsky, Nathan Sinai, Dr. P. H., and Solomon J. Axelrod, M.D., all of the University of Michigan Bureau of Public Health Economics.

* * *

Gifts and grants totaling more than $147,000 were approved by Wayne State University's Board of Governors at its recent February meeting.

The U. S. Public Health Service, National Institutes of Health, gave the largest amount, $36,836, for College of Medicine projects. A total of $32,500 was allocated to continue neurology training for another year while $1,971 will be added to the current grant expiring March 31. An additional $2,365 will be used for a cytodiagnostic screening survey in cervical cancer under the direction of Dr. Osborne A. Brines.

The Receiving Hospital Research Corporation gave $25,000 to defray salaries of individuals employed in departmental research at the College of Medicine.

A total of $29,755 was also given by the Michigan Chapter of the Arthritis and Rheumatism Foundation, to continue arthritis research under the direction of Dr. Alfred J. Bollet of the College of Medicine.

An American Cancer Society grant of $21,414 will be used to continue cancer research under the direction of Dr. James Lofstrom of the College of Medicine.

(Continued on Page 822)

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Each ANTIVERT *tablet contains:*

Meclizine (12.5 mg.)—most effective antihistaminic to control vestibular dysfunction.[1]

Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.[2,3]

Advantage of "dual therapy" confirmed:

Menger found ANTIVERT "improved or controlled symptoms in virtually 90% of vertiginous patients."[2]

Indications: Meniere's syndrome, arteriosclerotic vertigo, labyrinthitis, and streptomycin toxicity. Also effective in recurrent headache, including migraine.

Dosage: one tablet before each meal.

Supplied: bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Charles, C. M.: Geriatrics 2:110 (March) 1956. 2. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956.

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(Continued from Page 820)

The U. S. Public Health Service, division of nursing resources, gave $8,236 to be added to the current grant for advanced training for professional nurses under direction of Dean Katharine Faville, College of Nursing.

Two grants, each for $5,000, were awarded to Dr. Norman LeBel, College of Liberal Arts, and to Dr. Charles Stevenson, College of Medicine. Dr. LeBel's grant came from the Research Corp. while the Wyeth Laboratories gave the grant to Dr. Stevenson.

Gifts to student aids included $4,000 from the Roy Fruehauf Foundation to continue the Fruehauf Foundation scholarship at the College of Medicine.

* * *

An International Congress of Phlebology will be held in France at Chambery (Savoy) on May 6-8, 1960.

Subjects of the survey are:

The venous stasis: criticism, analysis, definition (without including treatment)—Professors Comel, Curri, Jourdan, Malamani, Malanzanni; Professor Wertheimer and "Professeur Agrégé" Sautot, Dr. Faucon.

Pain in the venous affections of the lower limbs: clinical aspect diagnosis, pathogeny (without including treatment)—Professors Comel, Fontaine, Huriez, Piulachs, Dr. Forestier, Gross, Bret, Tournay.

The sclerosing method in its extravascular applications—Doctor Ducheix.

The official languages of the congress will be English, French, German, Italian and Spanish (simultaneous).

Those wishing to attend should send word and text of communication, if any, to either of the Secretaries: Dr. J. Marmasse, 3, rue de la République, Orleans, Loiret, and Dr. S. Bourgeois, 8, Boulevard du Théâtre, Chambery, Savoie.

* * *

In the short ceremony during the plenary session of the Congress on Medical Education and Licensure, held in Chicago in February (7 to 10), the National Fund for Medical Education joined with AMEF in the announcement of gifts to Dr. John McK. Mitchell, president of the Association of American Medical Colleges who represented the 85 schools. As reported in the February "Foundation," the check presented to Dr. Mitchell by AMEF president Dr. George F. Lull, was for $1,133,257. The National Fund, represented by Chase Mellen, Jr. Executive Vice President, announced that its total grants would be $3,000,185, which includes the contributions of industry and individuals plus matching funds from the Ford Foundation.

These two funds gifts amount to over $4,133,000.

Still incomplete figures received from medical school alumni offices indicate that almost $3,000,000 was contributed by doctors direct to their schools last year.

* * *

Michigan Blue Cross Payments—John N. Lorf, President of Michigan Hospital Service, made public some staggering figures on March 26, 1959, on the occasion of the Board Meeting held on the twentieth anniversary.

In the past twenty years, Michigan's Blue Cross has

(Continued on Page 824)

"It is concluded that the addition of buffering agents to acetylsalicylic acid in the concentrations used serves no clinically detectable useful purpose."[1]

[1]Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, Postgraduate Medicine; 24:183, August, 1958.
Nonbuffered Material Used—Bayer® Aspirin.

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Tablets

- effective **oral** diuretic with no significant gastrointestinal irritation[1]
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DOSAGE: 1 to 3 tablets daily as required.

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CUMERTILIN Sodium Injection, 1- and 2-cc. ampuls, in boxes of 12, 25, and 100; and 10-cc. vials, individually and in boxes of 10 and 100

1 Pollock, B. E., and Pruitt, F. W.: Am. J. M. Sc., 226:172, 1953.

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(Continued from Page 822)

paid more than $750,000,000 (three quarters of a billion) in hospital care benefits. This represented more than 5,000,000 admissions, involving more than 39,000,000 days of care.

Payments to hospitals in 1958 hit a record $118,331,651, for 553,232 hospital admissions plus 286,000 outpatient cases. Operating expenses amounted to $5,151,654. Blue Cross earned $121,135,557 last year.

The two million dollar deficit came out of reserves built up in previous years.

The so-called average hospital bill covered by Blue Cross last year was about $225, but many (at least ten to fifteen a day) were for over $1,000 and at least one topped $10,000 for a single hospital admission!

In addition, Michigan's Blue Shield, during its nineteen years, has paid out in medical benefits over $300,000,000. The two organizations have provided much over a billion dollars worth of benefits to their subscribers.

* * *

Dr. Albert E. Heustis, state health commissioner, has issued a plea to Michigan residents to protect themselves against crippling by polio.

He pointed out there had been 550 cases of crippling polio and fifty deaths in 1958 in Michigan, compared with 121 crippling cases and only twelve deaths the previous year.

"Polio and particularly paralitic polio increased in 1958 because of public apathy toward immunization," said Dr. Heustis.

"Beginning with the field trials of the Salk vaccine in 1954, polio was on the run in Michigan. By 1957, immunization reached its highest level. But, with fewer cases of polio, interest in vaccination declined."

Dr. Heustis reported that 57 per cent of children from one to four years of age were unprotected by three polio shots. Twenty-five per cent between five and fourteen years of age are unprotected and 80 per cent of those from fifteen to forty years of age have not been properly immunized.

"Get vaccine into the arms of the unimmunized just as soon as possible," Dr. Heustis urged. "Paralytic polio usually begins to increase each year in June. It reaches a peak in the summer and lingers on into the fall.

"Every youngster and young adult should be vaccinated."—News release, March 31, 1959.

* * *

Two European sectional meetings and one South American sectional meeting have been announced by the International College of Surgeons.

The German speaking sections of the European Federation, ICS, will meet in Hamburg, Germany, June 1-3. A meeting of the French Section will be held in Lyons, France, June 19-21.

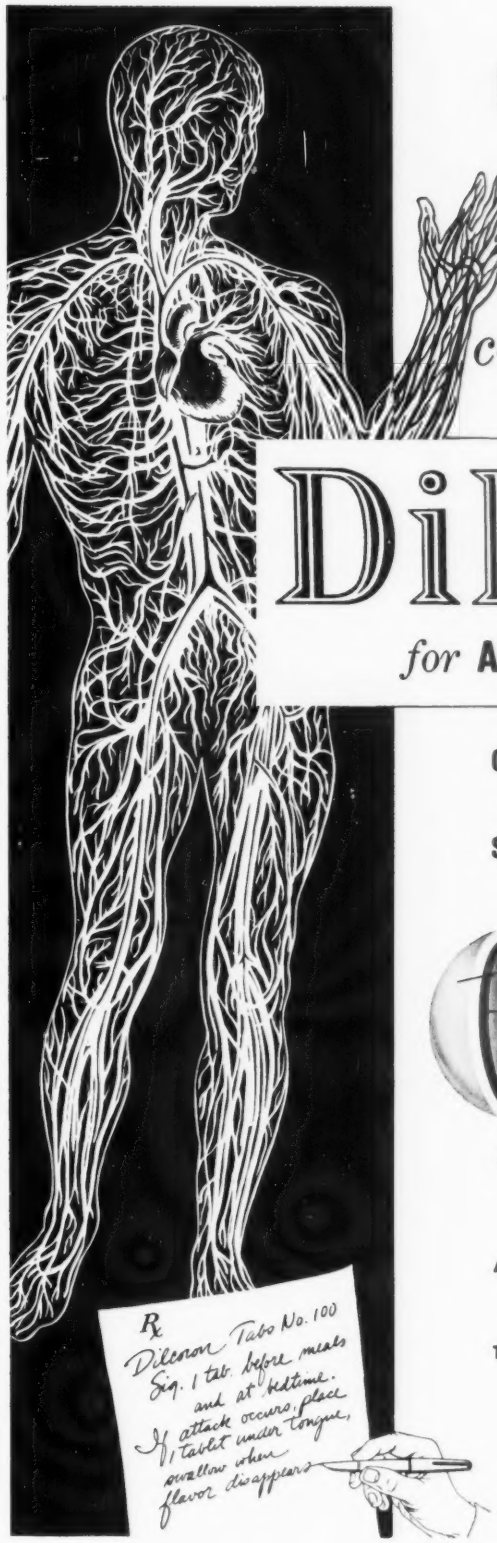
The Brazilian Section will meet in Santos, Brazil, in September, the date to be determined later.

For further information, write to the Secretariat, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

* * *

Hemophilia, the historic "bleeding disease" of kings,

(Continued on Page 826)



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dual-action
coronary vasodilator

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ORAL *(tablet swallowed whole)*
for dependable prophylaxis

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for immediate and sustained relief

Nitroglycerin
—0.4 mg. (1/150 grain)—acts quickly

Citrus "flavor-timer"
—signals patient when to swallow

Pentaerythritol tetranitrate
—15 mg. (1/4 grain)—prolongs action

For continuing prophylaxis patient swallows the entire Dilcoron tablet on an empty stomach.

Bottles of 100.

Average prophylactic dose:
1 tablet four times daily
(½ hour before meals and at bedtime).

Therapeutic dose:
1 tablet held under the tongue until citrus flavor disappears, then swallowed.

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(Continued from Page 824)

is cropping up in strange places, according to John B. Graham, M.D., visiting lecturer at The University of Michigan Medical Center, who reported results of a ten-year investigation of hemophiliac dogs, on March 24.

Dr. Graham, who is professor of pathology at the University of North Carolina, said the research is producing important new knowledge of the way disease is inherited, and is aiding diagnosis and treatment of the disorder in human beings.

Dr. Graham maintains a unique colony of hemophiliac dogs for his studies, and has attracted considerable professional attention for work in genetics and hemophilia. One of his animals sired over 100 hemophiliacs.

* * *

Human beings suffering from hemophilia usually have fewer children than average. But modern medical treatment is able to prolong the life of hemophiliacs so, in the long run, this will increase the occurrence of the disease.

The animals have a disease identical with one which human beings have. This identity is found in the reasons for bleeding, and in the mode of inheritance. The disease is inherited as a completely recessive, sex-linked characteristic.

* * *

Rural Health Conference.—Twelve physicians, surgeons and specialists from the University of Michigan played prominent roles in the Rural Health Conference held April 8-9 at the Kellogg Center in East Lansing.

General chairman of the conference is Harry A. Towsley, M.D., associate director of the Department of Postgraduate Medicine at the University of Michigan.

Robert G. Lovell, M.D., assistant dean of the Medical School, was chairman of the "Health Careers Program" on the opening day of the conference. University participants included Tom D. Rowe, dean of the College of Pharmacy, and Walter J. McNerney, director of the Bureau of Hospital Administration.

Edward A. Carr, M.D., and Prof. William C. Gibson spoke on rural health problems.

The following day was devoted to professional programs on highway safety and juvenile delinquency. Surgeons Herbert E. Sloan, Jr., Richard C. Schneider, Robert W. Bailey and C. Thomas Flotte of the University of Michigan Medical Center discussed "Emergency Aspects of Handling the Injured." H. Waldo Bird, M.D., and Stuart M. Finch, M.D., talked on mental health and psychiatry.

The conference was sponsored by the Michigan Foundation for Medical and Health Education, and co-sponsored by the Michigan Health Council.

* * *

Richard L. Malvin, Ph.D., instructor in physiology at the University of Michigan Medical Center, has been awarded the 1959 Lederle Medical Faculty Award. The award is accompanied by a grant of $10,500 to support his salary for a three-year period beginning July 1, 1959.

Benjamin W. Carey, M.D., medical director of Lederle, said the purpose of the award is to strengthen medical

(Continued on Page 828)

new for total management of itching,[1,2] inflamed,[3,4] infected[5,6] skin lesions

Dermatitis repens [with staph and monilia] 7 weeks duration

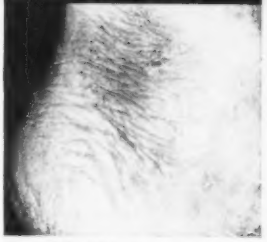
Cleared in 5 days

Mycolog ointment

Kenalog, Spectrocin and Mycostatin in Plastibase

antipruritic/anti-inflammatory/antibacterial/antifungal

Infectious eczematoid dermatitis of ankle—5 years duration



Cleared in 20 days

Mycolog Ointment – containing the new superior topical corticoid Kenalog – reduces inflammation,[3,4] relieves itching,[1,2] and combats or prevents bacterial, monilial and mixed infections.[5-7] It is extremely well tolerated, and assures a rapid, decisive clinical response for most infected dermatoses.

> "Thirty-one of 38 patients . . . obtained excellent or good control of dermatological lesions . . . [Mycolog] was highly effective, particularly in the management of mixed infections. Several recalcitrant eruptions which had not responded to previous therapy were remarkably responsive to the daily application of this preparation over periods of 2 to 3 weeks."[8]

For total management of itching, inflamed, infected skin lesions, Mycolog contains triamcinolone acetonide, an outstanding new topical corticoid for prompt, effective relief of itching, burning and inflammation[1-4] – neomycin and gramicidin for powerful antibacterial action[7] – and nystatin for treating or preventing Candida (Monilia) albicans infections.[8,9]

Application: Apply 2 to 3 times daily. Supply: 5 Gm. and 15 Gm. tubes. Each gram supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base, 0.25 mg. gramicidin, and 100,000 units nystatin in Plastibase.

References: 1. Shelmire, J.B., Jr.: Monographs on Therapy 3:164 (Nov.) 1958. • 2. Nix, T.E., Jr., and Derbes, V.J.: Monographs on Therapy 3:123 (Nov.) 1958. • 3. Robinson, R.C.V.: Bull. School of Med., U. Maryland 43:54 (July) 1958. • 4. Sternberg, T.H.: Newcomer, V.D., and Reisner, R.M.: Monographs on Therapy 3:115 (Nov.) 1958. • 5. Clark, R.F., and Hallett, J.J.: Monographs on Therapy, 3:153 (Nov.) 1958. • 6. Smith J.G., Jr., Zawisza, R.J., and Blank, H.: Monographs on Therapy, 3:111 (Nov.) 1958. • 7. Monographs on Therapy, 3:137 (Nov.) 1958. • 8. Howell, C.M., Jr.: North Carolina M.J. 19:449 (Oct.) 1958. • 9. Beneston, E.S.: South. M.J. 50:547 (April) 1957.

And whatever the topical corticoid need, a suitable Squibb formulation is available – Kenalog-S Lotion – 7½ cc. plastic squeeze bottles. Each cc. supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base and 0.25 mg. gramicidin. Kenalog Cream, 0.1%—5 Gm. and 15 Gm. tubes. Kenalog Lotion, 0.1%—15 cc. plastic squeeze bottles. Kenalog Ointment, 0.1%—5 Gm. and 15 Gm. tubes.

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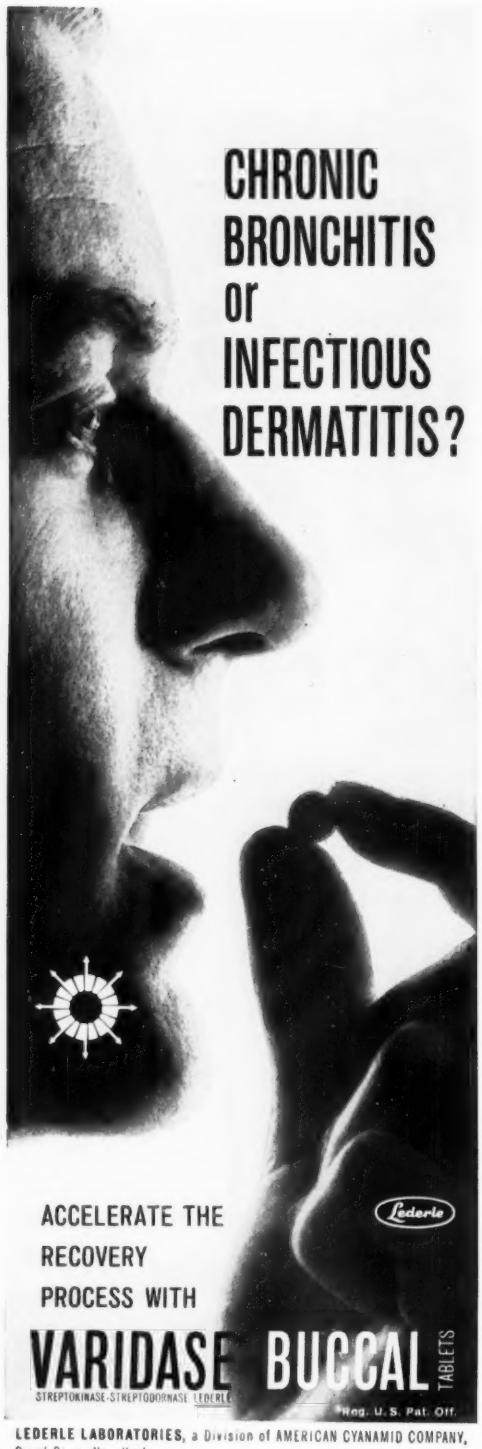

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(Continued from Page 826)

education by "providing recognition and incentive for outstanding young teachers and scholars."

According to Horace W. Davenport, Ph.D., chairman of the University of Michigan Department of Physiology, "Dr. Malvin was chosen for the award because of his outstanding teaching and research activities.

"His work with Dr. Walter Wilde is the most exciting study going on anywhere in the nation regarding the function and analysis of the kidney. The two have solved a long-standing problem: how to find out in what spot in the kidney a specific action was occurring without using the classical method of micropuncture."

Dr. Malvin is one of thirteen young medical school faculty members throughout the nation who will share $279,000 in grants under the Lederle program this year. He holds degrees in science from McGill University, New York University, and the University of Cincinnati. He joined the University of Michigan in 1956.

* * *

Max Karl Newman, M.D., Detroit, addressed the Institute of Advanced Law Study at the Wayne County Medical Society on March 30, 1959. His topic was "Neck and Back Injuries, Medical and Legal Aspects."

* * *

"Inorganic Factors in Nutrition" was the subject of discussion by four nationally known authorities, March 20, at the fifth annual Nutrition Conference. More than 150 scientists and dietitians attended the one-day Wayne State University College of Medicine conference in the David Whitney House auditorium.

Topics and speakers were:

"Trace Elements—Factors in Normal and Abnormal Nutrition," George K. Davis, Ph.D., professor of nutrition, University of Florida.

"The Medical Significance of Potassium Deficiency," William B. Schwartz, M.D., professor of medicine, Tufts University School of Medicine.

"Iron Metabolism and the Pathogenesis of Iron Deficiency Anemia," Carl V. Moore, M.D., professor of medicine, Washington University School of Medicine.

"The Calcium Requirement," D. Mark Hegsted, Ph.D., associate professor of nutrition, Harvard University School of Public Health.

* * *

Inhalation Therapy.—Four staff members of the University of Michigan Medical Center participated in the state's first Institute and Workshop in Inhalation Therapy held at the Post Tavern Hotel in Battle Creek April 2.

Don E. Gilbert, chief inhalation therapist at University Hospital and president of the American Association of Inhalation Therapists (AAIT), moderated the morning session of the meeting.

Discussions dealt with the organization and advantages of an inhalation therapy department in a hospital. It also covered costs, records, safety, maintenance and the selection of equipment.

Other participants from the Medical Center were Kenneth Mayne, assistant business manager; Mark Booth, assistant supervisor of inhalation therapy; and Kenneth Mathews, materials supervisor.

(Continued on Page 830)

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Combines the anti-inflammatory effect of hydrocortisone with the comprehensive bactericidal action of the antibiotics.

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OPHTHALMIC SOLUTION: Bottles of 10 cc. with sterile dropper.

NEW { **LOTION:** Plastic squeeze bottles of 20 cc.
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OINTMENT: Tubes of ½ oz., 1 oz. and ⅛ oz. (ophthalmic tip).

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(Continued from Page 828)

The University of Michigan's Inhalation Therapy Department is one of the first of its kind in the country and has become a model for hospitals throughout the United States.

The Institute is co-sponsored by the Michigan Society of Inhalation Therapists and the Bay County Chapter of AAIT. About 200 attended.

* * *

Fluoridation.—Consolidation of all city and county public health services and immediate fluoridation of public water supplies are among the recommendations made to the city of Cincinnati in an extensive report prepared by Vlado A. Getting, M.D., of the University of Michigan School of Public Health.

Dr. Getting, who serves as consultant in public health for the Hamilton County (Ohio) Research Foundation, also recommended improved inspection services, coordinated health education programs and greater uniformity of health standards and regulations throughout the greater Cincinnati area.

Dr. Getting directed a similar study of public health services for metropolitan Cleveland last year. He is professor of public health practice at the University of Michigan.

* * *

The Pharmaceutical Manufacturers Association has named William B. Graham, president of Baxter Laboratories, Inc., as chairman of the Board of Directors, and Austin Smith, M.D., former editor for the American Medical Association, as its first full-time salaried president. Harry J. Loynd, president of Parke, Davis & Company, was designated as chairman-elect for 1960.

* * *

Military and medical preparedness for the management and care of mass casualties in case of war will feature the seventh annual National Civil Defense Conference which will be held in Atlantic City on Saturday, June 6, immediately prior to the opening of the annual American Medical Association convention.

"The one-day program will highlight medical problems involved in nuclear warfare," said Dr. Harold C. Lueth, Evanston, Illinois, chairman of the AMA Committee on Disaster Medical Care. "The program, unique since it will be presented entirely by the Army Medical Service, will dramatize the important fact that the medical and health professions can take positive action to minimize the impact of mass casualties if properly trained and organized."

* * *

Educational Council for Foreign Medical Graduates.—The number of foreign-trained physicians taking the qualifying examination of the Education Council for Foreign Medical Graduates is rapidly increasing. Only 298 took the first examination in March, 1958; 844 in September, 1958; 1,772 in February, 1959, and more than a thousand have already registered for the next examination September 22, 1959.

(Continued on Page 832)

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effective medication
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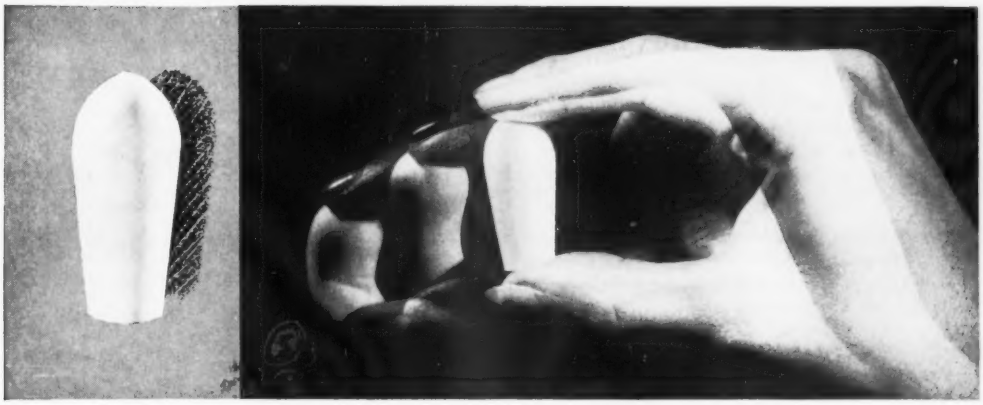

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SHORT DOSAGE SCHEDULE—The short course of treatment with Milibis—only 10 suppositories in most cases—together with the clean, odorless, non-staining qualities eliminates psychic barriers which often interrupt longer treatments before complete cure.

SUPPLIED: BOXES OF 10 with applicator.

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- INSURES CORRECT SUPPOSITORY PLACEMENT

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*97 per cent effective in a study of 564 cases; 94 per cent effective in a series of 510 cases.

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(Continued from Page 830)

In the first examination, 51 per cent of the 298 candidates won standard ECFMG certificates based on a score of 75 per cent or better.

There were no foreign centers for the first examination; thirty for the second, and forty-four for the third.

For the next examination, there will be fifteen centers in Latin America, fourteen in the Far East, seven in the Near and Middle East, thirteen in Europe, and one in Africa. In addition, examinations are held at various places in the United States.

In the second examination, 49.5 per cent of the 844 candidates won standard ECFMG certificates. Another 26.8 per cent won temporary two-year certificates based on scores of 70 to 74 per cent.

In the third examination, 43.4 per cent of the 1,772 candidates won standard ECFMG certificates. Another 25.5 per cent won temporary two-year certificates. In contrast among the 1,278 foreign trained physicians taking the English test in United States examining centers, none failed and only three did poorly.

Applications for the next qualifying examination September 22 must be in the ECFMG offices at 1710 Orrington Avenue, Evanston, Illinois, by June 22.

* * *

Milton A. Darling, M.D., Given Further Honors.—President-Elect of the Michigan State Medical Society, Dr. Darling, Detroit, recently was honored by having an annual lectureship named after him by Wayne State University College of Medicine. The exact name will be the "Milton A. Darling Lectureship in Obstetrics and Gynecology." Announcement of Doctor Darling's latest honor was made by Charles S. Stevenson, M.D., Professor and Chairman of the Department of Obstetrics and Gynecology, at Wayne at the first annual "Resident's Day" dinner in the Wayne County Medical Society Building on February 25.

Doctor Darling was specifically cited for his contribution to medical education through his development of the Resident's training program in obstetrics and gynecology at Grace Hospital.

Congratulations, President-Elect Darling!

* * *

George O. Clifford, M.D., Detroit, has been named a Markle Scholar by the directors of the Markle Foundation in New York City. Doctor Clifford, whose special research field is clinical hematology, is assistant professor at Wayne State University's College of Medicine and director of intern training for the school at Detroit Receiving.

Congratulations, Doctor Clifford!

* * *

Ralph S. Green, M.D., clinical director of The Haven Sanitarium, Rochester, has been elected secretary-treasurer of the Central Neuro-Psychiatric Private Hospital Association. He also serves as the association program chairman for the 1960 annual meeting.

* * *

(Continued on Page 836)

Sanctorius on his steelyard chair in the act of weighing himself for a metabolism experiment

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keep BLOOD PRESSURE LEVEL

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Dextro Amphetamine Sulfate	15 mg	Vitamin C	30.0 mg
Amobarbital	45 mg	Ferrous Sulfate	20.0 mg
Vitamin A	6,600 Units	Cobalt Sulfate	0.49 mg
Vitamin D	400 Units	Copper Sulfate	2.8 mg
Vitamin B-1	1.6 mg	Sodium Malybdate	0.45 mg
Vitamin B-2	2.5 mg	Zinc Sulfate	3.9 mg
Niacinamide	15.5 mg	Potassium Iodide	0.13 mg

REFER TO PDR

PAGE 826

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Each tablespoonful (15 ml.) contains 0.33 Gm. (5 gr.) theophylline sodium glycinate, equiv. 0.16 Gm. (2½ gr.) Theophylline U.S.P.; 20% alcohol.

Dosage: Adults—2 tablespoonfuls t.i.d. Children—2 to 3 teaspoonfuls if over 12 years; 1 to 2 teaspoonfuls if 6-12 years; 1 teaspoonful if 3-6 years; ½ to 1 teaspoonful if 1-3 years. May be repeated after 8 hours.

Bottles of 1 pint, 1 gallon.

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Racephedrine Hydrochloride	30 mg.
Potassium Iodide	300 mg.
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Niacinamide	40 mg.

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Bottles of 100, 500.

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Rheumatoid arthritis —generalized.

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WILCORT combines the anti-inflammatory action of ACTH with the dependable anabolic effects of vitamin B_{12}. It, therefore, relieves the neuritic pain, regardless of the etiology, improves the appetite, the patient feels stronger, has more energy, and the muscle and arthritic pains become less severe.[1]

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Supplied: In 5 cc. multiple dose vials for intramuscular or subcutaneous injection.

1. Natenshon, A. L.: Wisconsin Med. J. 53: 223, 1954.

WILSON Laboratories

THE WILSON LABORATORIES. Pharmaceutical Division of Wilson & Co., Inc., 4221 S. Western Boulevard, Chicago 9, Illinois

(Continued from Page 832)

The tuberculin test and chest x-ray should be part of every complete physical examination. Tuberculin testing is increasing in Michigan because it not only aids in discovering active tuberculosis, but it also is an invaluable tool in finding tuberculosis infection not detectable with a chest x-ray.

"The combined use of tuberculin and roentgenography should be part of every complete physical examination, whether it is made in the hospital or in a doctor's office," in the opinion of Dr. Edward W. Custer of Healthwin Hospital in South Bend, Indiana. "The physician will have the satisfaction of knowing that his diagnosis is thorough and that he is practicing good preventive medicine, either of which reflects to the benefit of the patient."

* * *

C. D. Benson, M.D., Detroit, was guest speaker at the recent fifteenth anniversary meeting of the educational program for the advancement of the study and control of cancer, sponsored by the Calhoun County Medical Society and the Calhoun County Unit of the American Cancer Society. Stuart P. Barden, M.D., chairman of the cancer committee of the Medical Society, presided.

* * *

Donald S. Smith, M.D., Pontiac, is the new president of the Michigan Heart Association, succeeding F. D. Dodrill, M.D., of Detroit. B. I. Johnstone, M.D., Detroit, was selected as president-elect.

Among other leaders elected for the coming year are Muir Clapper, M.D., Detroit, John Littig, M.D., Kalamazoo, and Milton Shaw, M.D., Lansing, all vice-presidents, and Sidney E. Chapin, M.D., Dearborn, secretary.

* * *

The University of Michigan School of Public Health announces a new step toward advancing mental health teaching and research in the field of public health. Roger W. Howell, M.D., has joined the school as its first full-time psychiatrist. Formerly on the faculties at the Universities of Minnesota and North Carolina, Doctor Howell had been director of preventive psychiatry at the Lafayette Clinic in Detroit and associate professor of psychiatry at Wayne State University since December, 1956.

* * *

The Poison Control Service of the University of Michigan Medical Center reports a busy first year, with 345 emergency calls. In his annual report, George H. Lowry, M.D., physician in charge of the service, explains that 75 per cent of the calls during the year concerned children between the ages of one and three. Medicines were the greatest offenders, he reported. Most repeat violators were: aspirin, cleaning and polishing agents, cosmetics, sedatives, kerosene, ink, thermometer fluid, vermifuges and thyroid tablets.

(Continued on Page 838)

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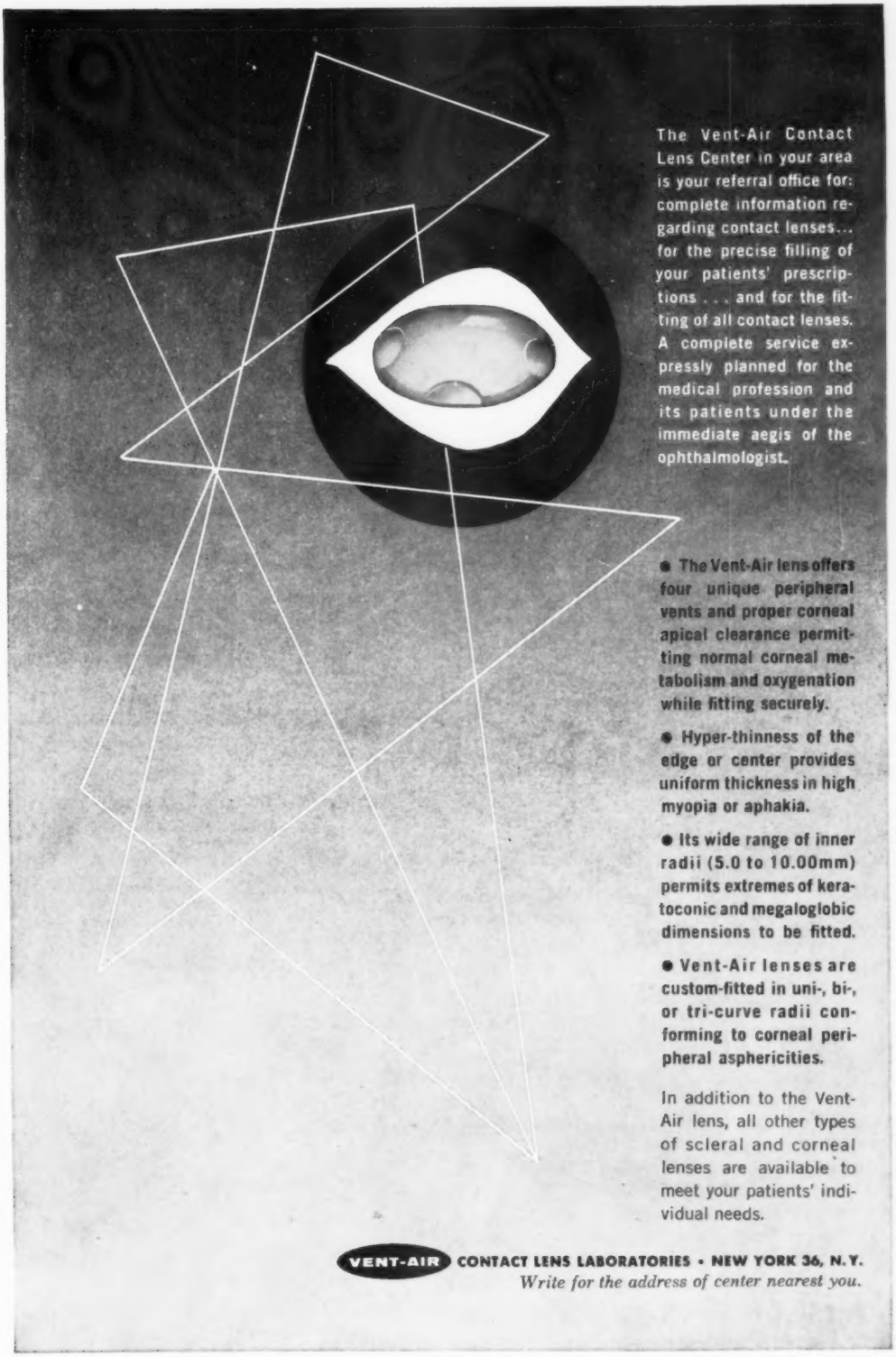
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(Continued from Page 836)

The telephone number of the Poison Control Service is Ann Arbor NO 3-1531, Ext. 589.

* * *

Arno W. Weiss, M.D., Saginaw, has been named to the Michigan State University development fund board of trustees. A former president of the Huron County Medical Society and now secretary-treasurer of the Saginaw Valley Academy of Ophthalmology and Otolaryngology, Doctor Weiss will help guide the program of the development fund.

* * *

Wm. H. Blodgett, M.D., Detroit, has been appointed to the National Foundation's Health Scholarship Committee for Michigan.

Congratulations, Dr. Blodgett.

* * *

The annual Keyport Trauma Day, sponsored by the Michigan Committee on Trauma, American College of Surgeons, and the Central Michigan Committee on Trauma, will be held at Hidden Valley Lodge, near Gaylord, June 25. Speakers will include Merle Trewin, M.D., and Kirk Cammack, M.D., both of Flint; Harold J. Meier, M.D., Coldwater; Nicholas S. Gimbel, M.D., and Joseph L. Posch, M.D., both of Detroit; Robert E. L. Berry, M.D., Ann Arbor; Herbert W. Harris, M.D., Lansing, Willis H. Huron, M.D., Iron Mountain, will preside for the addresses, while Frank H. Power, M.D., Traverse City, will preside for the advice clinic. Harold W. Woughter, M.D., Flint, is chairman of the Michigan Committee, and Sydney N. Lyttle, M.D., also of Flint, is the secretary-treasurer.

* * *

The thirty-eighth annual Beaumont Lecture of the Wayne County Medical Society offered a special feature this year.

The program, in honor of William Beaumont, M.D., started with a dinner at the David Whitney House, followed by a special dedication of the Beaumont and Historical Room, then the county society meeting with the Beaumont lecture. This room in the new home of the Society provides for adequate care and exhibition of the Beaumontiana and other historical materials which are growing in volume and value. It was back in 1942 when the Wayne County Medical Society first assigned a room —once the library of the David Whitney home at 4421 Woodward avenue—for development as a library and Beaumont museum.

Alfred H. Whittaker, M.D., is custodian of this special room.

Thomas Francis, Jr., M.D., University of Michigan professor of epidemiology, was the Beaumont lecturer this year. Doctor Francis was honored at the Beaumont Memorial Foundation subscription dinner which opened the evening. In discussing "Immunity to Virus Dis-

(Continued on Page 840)

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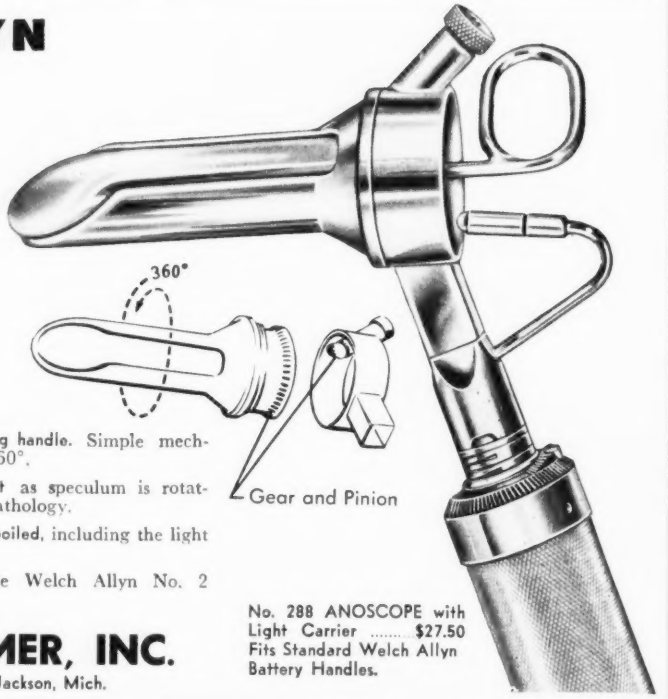
Facilitates examination and instrumentation



- **Speculum can be rotated without moving handle.** Simple mechanism turns speculum through full 360°.
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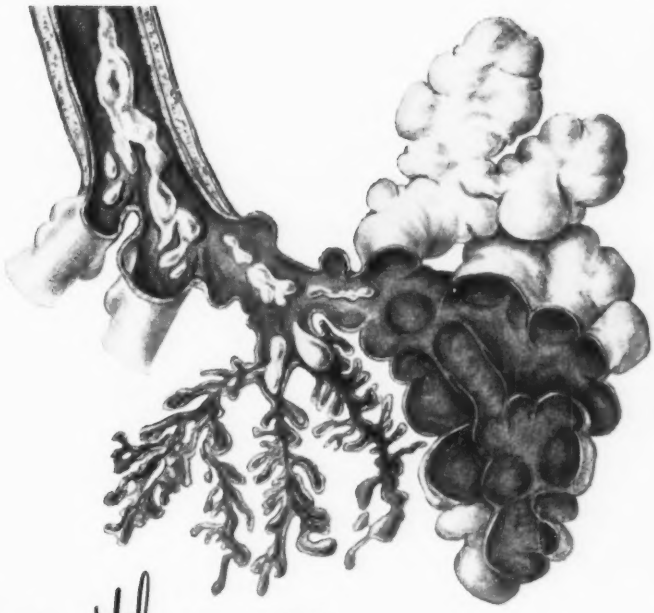

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Very useful in...

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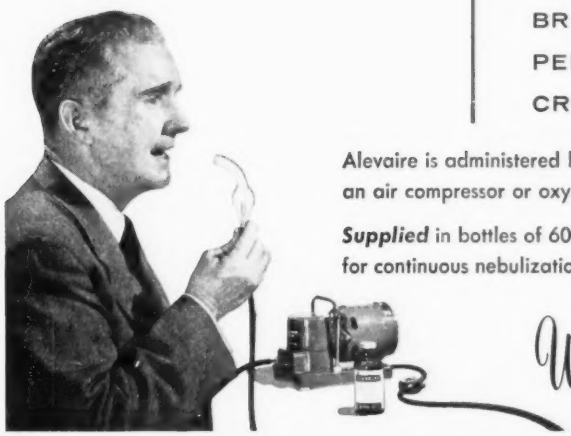

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(Continued from Page 838)

eases." Doctor Francis declared that viral diseases, up to the present, are not susceptible to any of the therapeutic drugs applicable in other infectious states and that they can be prevented more easily than they can be cured.

* * *

M.D. Locations—through February 28, 1959 were:

Placed by Michigan Health Council
Charles A. Hattaway, M.D., Alma
Paul Sepetys, M.D., Dearborn

Assisted by Michigan Health Council
Richard A. Knecht, M.D., Petoskey
Gerald W. Morris, M.D., Mt. Clemens
Ralph F. Woodbury, M.D., Grosse Pointe

* * *

George J. Curry, M.D., Flint, has been appointed a member of the Editorial Board of the *American Journal of Surgery*. Doctor Curry was coordinator of the October, 1958, number of the *Journal* in which sixteen manuscripts from medical authors across the land were featured.

* * *

The Trudeau School of Tuberculosis and Other Pulmonary Diseases will hold its forty-fourth session at Saranac Lake, N. Y., June 8-26. Half the time will be devoted to a consideration of tuberculosis and the other half to other diseases.

MEDICAL TELEVISION SHOWS

Produced by Michigan Health Council:

March 8, 1959—"Michigan Clinical Institute"—W. W. Babcock, M.D., Detroit, and Sidney E. Chapin, M.D., Dearborn.

March 15, 1959—"Careers in the Dairy Industry"—(Film—"This is the Dairy Industry").

March 22, 1959—"The Human Eye"—(Film).

March 29, 1959—"Sun and Skin"—(Film).

* * *

AMEF Giving Stressed as Current Tuition Fee.—A spokesman at the eighth annual AMEF state chairmen's meeting in Chicago urged a change in the appeal made by the Foundation to the medical profession.

Hugh H. Hussey, M.D., Dean of Georgetown University School of Medicine and member of the AMA Board of Trustees, said:

"Rather than stress American Medical Education Foundation contributions as payment for a debt owed, let us instead emphasize that they are current tuition fees. . . . The learning process didn't stop at graduation. If it had, you wouldn't know half as much as the residents in hospitals where you treat your patients . . . you've been learning ever since you left medical school. And the chief source for that learning has been the same school from which you graduated. The only difference is that now they must depend on your conscience when it comes to collecting tuition."

(Continued on Page 842)

Nursing Care for Elders In The Deep South

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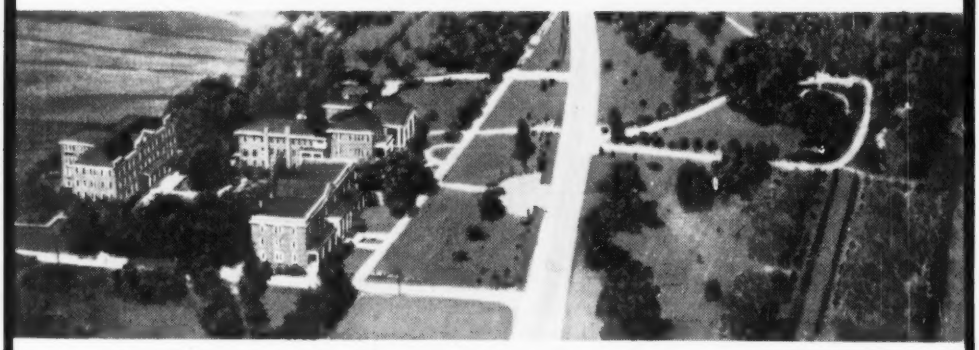

Owned by Doctors and operated by a registered nurse in a beautifully landscaped 20 acre estate in the mild climate of Middle Georgia. All buildings housing guests sprinkled. *Rates do not include medical care, medication, personal laundry or other extras.

Mrs. Sue H. Baldwin, R. N.
Superintendent

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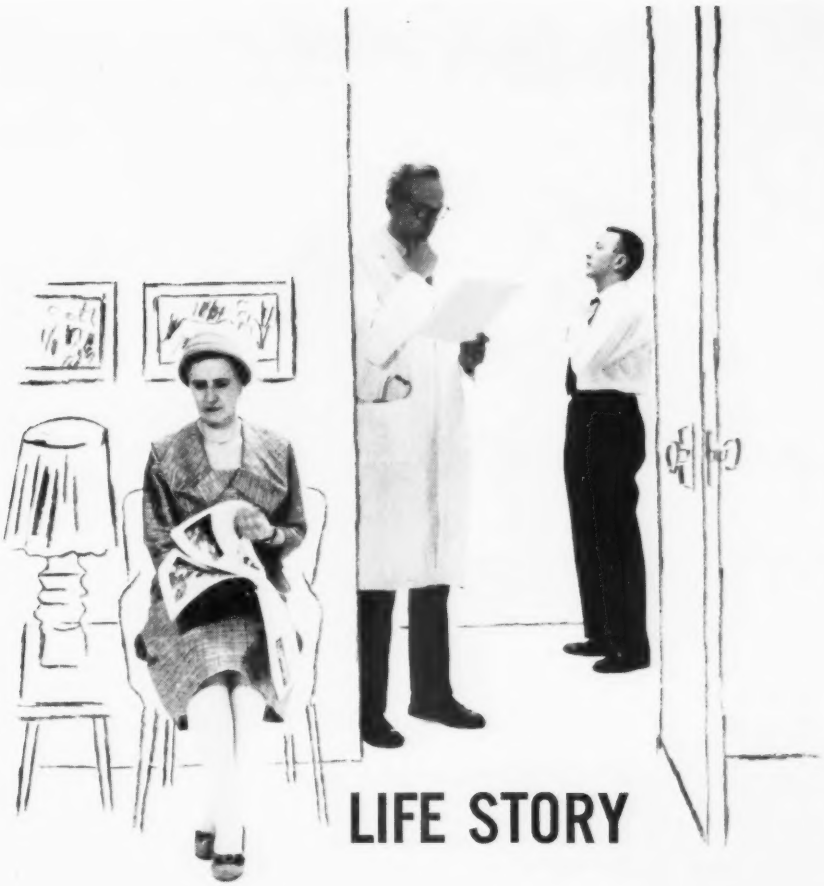

LIFE STORY

The leading site of cancer today is the colon and rectum. In 1958, 58,000 new cases were diagnosed.

The present 5-year survival rate for these cancers is less than 30%. This figure could be greatly increased by closing the very wide gap between *actual* and *possible* survival rates.

Earlier diagnosis is an immediate requirement. The American Cancer Society constantly stresses the importance of annual health checkups for all adults, and urges physicians to employ digital and proctoscopic examination of the rectum and colon to find cancer in an early stage.

With your assistance, doctor, in persuading patients to accept these uncomfortable, time-consuming procedures, the gap between actual and possible survival rates could be rapidly closed.

AMERICAN CANCER SOCIETY

Michigan Division, Inc.
1205 E. Saginaw Street
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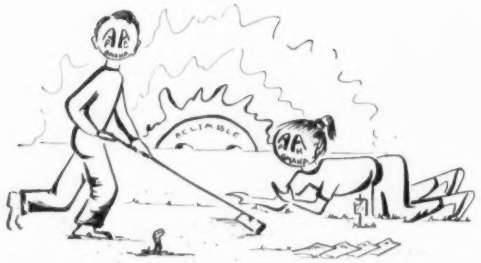
Southeastern Michigan Division
4811 John R. Street
Detroit, Michigan



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2-4109

(Continued from Page 840)

The University of Southern California School of Medicine will hold a postgraduate refresher course again this summer in Honolulu. Information about the broad curriculum for the course, July 29-August 15, may be obtained from the school.

* * *

The First International Medical Conference on Mental Retardation at Portland, Maine, July 27-31, has selected W. W. Zuelzer, M.D., University of Detroit professor of pediatric research, to present an address.

* * *

The Fourth International Goiter Conference will be held July 5-9, 1960, in London. Applications for travel grants may be made to the American Goiter Association, 149½ Washington Avenue, Albany 10, N. Y.

* * *

Dr. Trimby Honored.—An "Exceptional Service to Safety" pin has been awarded to Robert H. Trimby, M.D., Lansing, by the Greater Lansing Safety Council. With the award he was wished Godspeed in his new practice with a private school at Fort Lauderdale, Florida. As chairman of the preventative medicine committee of the Ingham County Medical Society, Doctor Trimby conducted a three-year survey of home accidents. The results were printed in a booklet, "Home Sweet? Home" and distributed widely in the central Michigan area.

The safety citation, presented by James F. Anderton, president of the safety council, declared, "Doctor Trimby not only gave generously of his time in making the survey possible, but also appeared before many groups to point out the need for special emphasis programs for this type of accident prevention work." Dr. Trimby shortly will leave Michigan to practice in Florida.

All success and happiness, Dr. Trimby!

* * *

Adoption Law Changes Recommended.—Speaking at the annual Clinical Institute of the State Medical Society, Ernest H. Watson, M.D., of The University of Michigan Medical Center, recommended four major changes in Michigan's laws and practices controlling the adoption of children: strict anonymity between natural and adopting parents, limiting adoption procedures to recognized social agencies, cancelling the right of parents to place their own children for adoption, and a renewed emphasis on the well-being of the child himself.

Dr. Watson is professor of pediatrics and communicable disease at the U-M Medical Center and chairman of the State Medical Society's Committee on Adoption. He is also a member of the Adoptions Committee of the National Academy of Pediatrics.

He said physicians are directly or indirectly involved in nearly all adoptive practices, and can influence needed changes in existing laws.

Natural parents and adoptive parents should have no knowledge of each other's identity. Human emotions are such that to proceed on any other basis is dangerous to the success of the adoption.

On the question of social agencies, they are better prepared than physicians to offer a wide choice of adoptive parents, collect and record valuable data on the

natural and adopting parents, and when necessary, to act as temporary guardian for the child before placement.

The biggest legal loophole in adoptive practices today is the presumed inherent right of parents to place their children for adoption.

This leads to serious abuses. An illegitimately pregnant teen-ager is hardly in a position to find proper parents for her child. Her emotional, social and financial predicaments make her an easy prey for persons who seem at times to forget completely the needs of the baby.

Emphasizing the future welfare of the child will preclude placement to please friends, or to get some unfortunate girl off the hook of an illegitimate pregnancy. Children are not chattels, and should not be handed about at the whim of adults who may have motives other than the future welfare of the child.

* * *

A special session on new concepts in aging will be held during the annual convention of the American Medical Association in Atlantic City, June 8-12.

The meeting is designed to present the practicing physician with a concentrated review of current thinking regarding health care of the aged, and to provide him with concrete health recommendations which he can translate to his own older patients.

Keynoting the session will be a series of panels devoted to Diseases Among the Aged, Nutritional Counseling, Promoting Physical Fitness, and Motivating the Older Person. Panel members will include Drs. David B. Allman, Leland S. McKittrick, Edward C. Reifenstein, Irving S. Wright, Walter E. Vest, Jr., Frederick C. Swartz, Frederick J. Stare, Clive M. McCay, Margaret A. Ohlson, Henry A. Holle, Norman Lee Barr, Theodore G. Klumpp, Janet Wessell, Edward H. Williams, Ewald W. Bussee, Howard P. Rome, and Cecil Wittson.

These nationally recognized authorities in their fields will cover such points as (1) special treatment aspects of cardiovascular, neoplastic and bone diseases among the aged, (2) effects of adequate nutrition on rehabilitation potential for older patients, (3) variables in prescribing a physical activity program for the older individual and (4) the effects of physical health, social adjustment and psychological functioning on motivation in the older person.

Each panel presentation will be followed by a discussion period in which the primary interests of the audience will be explored and important ideas summarized. Dr. Edward L. Bortz of Philadelphia will close the session by summarizing the health recommendations brought out during the day in a formula for full living by the aging person.

Physicians planning to attend the session are invited to send questions or points they would like to have discussed to the Committee on Aging, A.M.A., 535 North Dearborn, Chicago 10, Illinois. The areas of interest so indicated will be brought out as far as possible during the session. Queries should be received at A.M.A. headquarters not later than Wednesday, May 27.

SAMMOND PLEASANT LODGE

Offers to the elderly and chronically ill

Peace and quiet. Freedom of a large and richly furnished home and acres of lawns and wooded rolling grounds, scientifically prepared tasty meals, congenial companionship. A real

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Communications

SUBMISSION OF CLAIMS

1. *Delay in Medicare Billings.*—This office is concerned about the receipt of a large number of claims which have been delayed for a considerable period of time after completion of care. Delayed billings cause many problems for the Government, the contractors, the dependent or sponsor, and the source of care, all of whom are interested in settling the matter of payment as soon as practicable. From the Government's standpoint, the timely receipt of claims is most important in that the information therefrom is used as the basis for budgetary requests and other required statistical data.

2. *Future Claims.*—It is emphasized that Medicare contracts call for payment to be made on the basis of "complete" claims. Hospitals and physicians are urged to obtain all of the necessary information, including the Medicare Permit if required, or make arrangements for obtaining same, at the time the patient makes the initial visit and at the time the understanding is reached that care will be rendered under the Medicare Program. It is particularly important to examine the DD Form 1173 (Uniformed Services Identification and Privilege Card) and to obtain and record the required information therefrom, or to obtain adequate documentation establishing that the patient is an eligible dependent of an active duty member of the Uniformed Services. Physicians and hospitals are urged to submit claims as soon as care has been terminated. This will assist in cutting down correspondence required to complete the information necessary on the Claim Form for payment. With the passage of time, records may be misplaced and difficulty experienced in assembling all of the information required to submit a "complete" claim. Also, with the passage of time, the serviceman may be discharged or reassigned and he and the dependent may leave the area where care was received. In some cases, difficulty is encountered by the Uniformed Services in contacting the reassigned member or a former serviceman and his dependents after discharge.

3. *Old Claims.*—For the same reasons outlined above, physicians and hospitals are urged to "complete" and submit old claims, on hand, as soon as practicable. With the passage of time, it will become more and more difficult to process these claims and resolve difficulties which may arise in connection with them.

Progress in cleaning up old claims and progress in cutting down on the time-lag between termination of care and submission of claims will be the subject of inquiry on future visits to contractors by representatives of the Office for Dependents' Medical Care.

FLOYD L. WERGELAND
Brigadier General, M.C.
Executive Director
Office for Dependents' Medical Care

Although the number of cases of paralytic polio in this country last year increased by one-fourth over 1957, most epidemics in 1958 centered around groups where use of the Salk vaccine lagged. "The evidence is now overwhelming," says Health Information Foundation, "that the full series of three or more Salk inoculations provides a high level of protection from paralytic polio." Moreover, "No break in the safety of the vaccine has shown up since 1955."

THE DOCTOR'S LIBRARY

Acknowledgments of all books received will be made in this column, and this will be deemed by us as full compensation to those sending them. A selection will be made for review, as expedient.

TEXTBOOK OF SURGERY. Third Edition. Edited by H. Fred Mosely, M.A., D.M., M.Ch. (Oxon), F.A.C.S., F.R.C.S. (Eng.), F.R.C.S.(C). Assistant Professor of Surgery, McGill University; Associate Surgeon, Royal Victoria Hospital, Montreal, Canada. 738 text illustrations and 108 color plates. St. Louis: The C. V. Mosby Company, 1959. Price, $17.00.

The third edition of Textbook of Surgery lists many recognized authorities in their respective fields as contributors. The various chapters have been revised and brought up-to-date in many of the rapidly advancing fields, such as radioactive isotopes and vascular surgery. All of the contributors write in the matchless style found in England and Canada, but often sadly lacking in textbooks by American authors.

The book is well organized and concise. The charts and uncolored pictures are well chosen and illustrate their points clearly. The book contains over 100 matchless color plates by Frank Netter, supplied to the authors from the Ciba Collection of Medical Illustrations. These plates alone put this book out well beyond the standard medical textbook now in use. It also contains an excellent bibliography which is unique in that it lists available medical movies for the various conditions described, and where they can be obtained. This book is a must for students, and strongly recommended for the library of any M.D. encountering surgical lesions. It may well become a standard textbook used in medical schools.

I recommend it very highly.

J.M.H.

ANATOMY FOR SURGEONS: VOLUME 3, THE BACK AND LIMBS. By W. Henry Hollinshead, Ph.D., Professor of Anatomy, Mayo Foundation, University of Minnesota. Head of the Section of Anatomy, Mayo Clinic, Rochester, Minnesota. With 785 Illustrations. New York: Hoober-Harper Book. Price, $23.50.

This third volume reviews the anatomy of the back and limbs. It differs from the ordinary anatomy book in that it correlates the clinical aspects with the anatomy and gives reasons for various approaches. These are of extreme practical importance in handling many of the surgical conditions encountered in present day practice. It is equally as valuable to the older, experienced surgeon as well as to the beginner. This volume contains excellent illustrations, sketches and summarizing charts. At the end of each division is an extensive bibliography. This is an excellent reference and deserves a place in the library of any surgeon concerned with extremity or back surgery.

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CLINICAL ORTHOPAEDICS. Anthony F. DePalma, Editor-in-Chief, with the assistance of the Associate Editors, the Board of Advisory Editors, the Board of Corresponding Editors. Number Twelve. Fall, 1958. Philadelphia and Montreal: J. B. Lippincott Company, 1958. Price, $7.50.

This excellent Editor-in-Chief, a renowned orthopedist, presents a book entitled Clinical Orthopaedics, which is divided into three major sections, Rehabilitation, General Orthopaedics, and Items of Interest in Orthopaedics. For the practitioner, the section on Orthopaedics is exceedingly interesting, detailed, and becomes an entire textbook in Physical Medicine and Rehabilitation. The chapter on Hemiplegia is outstanding in its development, and presents the most modern concepts from the standpoint of diagnosis, as well as management of the hemiplegic. Rehabilitation of the amputee again forms almost a complete textbook in itself, by the outstanding authority Kessler. Other points of interest have to do with disability evaluation, physiologic interpretation of stand-up and step-up exercises in rehabilitation and electromyography with reference to the upper extremities. Other features of rehabilitation make a well-rounded discussion in the field of Physical Medicine.

M.K.N.

BOOKS RECEIVED

THE CARE OF THE PATIENT IN SURGERY INCLUDING TECHNIQUES. Third Edition. By Edythe Louise Alexander, R.N., B.S., M.A., Director of Nursing Service and Principal of the School of Nursing, Lutheran Medical Center, Brooklyn, N. Y. Formerly Supervisor of Operating Rooms and Associate Director of Nursing Service at the Roosevelt Hospital, New York, N. Y.; formerly Supervisor at Mountainside Hospital, Montclair, N. J., and of the Private Pavilion Operating Rooms, New York Hospital, New York, N.Y. 555 Illustrations, including 5 in color. St. Louis: The C. V. Mosby Company, 1958. Price, $12.75.

CRIME AND INSANITY. Edited by Richard W. Nice. New York: Philosophical Library, 1958. Price, $6.00.

AN INTRODUCTION TO THE STUDY OF EXPERIMENTAL MEDICINE. By Claude Berhard. Translated by Henry Copley Green, A.M. With an introduction by Lawrence J. Henderson. With a new Foreword by I. Bernard Cohen, Professor, Harvard University. New York: Dover Publications, Inc., 1958. Price, $1.50.

NEGROES AND MEDICINE. By Dietrich C. Reitzes. Published for The Commonwealth Fund. Cambridge, Massachusetts: Harvard University Press, 1958. Price, $7.00.

TECHNIC AND PRACTICE OF PSYCHOANALYSIS. By Leon J. Saul, M.D., Professor of Clinical Psychiatry, Medical School of the University of Pennsylvania; Training Analyst, Philadelphia Psychoanalytic Institute; Psychiatric Consultant, Swarthmore College. Philadelphia and Montreal: J. B. Lippincott Company, 1958. Price, $8.00.

RADIOACTIVE ISOTOPES IN CLINICAL PRACTICE. By Edith H. Quimby, Sc.D., Professor of Radiology (Physics), College of Physicians and Surgeons, Columbia University, New York; Sergei Feitelberg,

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M.D., Director, Physics Department, The Mount Sinai Hospital; Associate Clinical Professor of Radiology, College of Physicians and Surgeons, Columbia University, New York; Solomon Silver, M.D., Attending Physician; Chief, Thyroid Clinic, The Mount Sinai Hospital; Associate Clinical Professor of Medicine, College of Physicians and Surgeons, Columbia University, New York. 97 illustrations. Philadelphia: Lea & Febiger, 1958. Price, $10.00.

A PRIMER ON COMMON FUNDAMENTAL DISORDERS. Practical Diagnosis and Management. By Jack W. Fleming, M.D., Department of Internal Medicine, The Medical Center Clinic, Pensacola, Florida. With illustrations by Jerry Robinson. Boston, Toronto: Little, Brown & Co., 1958. Price, $5.00.

LOVE, SKILL AND MYSTERY. A handbook to marriage. By Theodor Bovet. Garden City, New York: Doubleday & Company, Inc., 1958. Price, $3.50.

The average person in the United States forked over $530.80 in taxes to the Federal, state and local governments last year, the Commerce Department reports.

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1 FERGUSON, Dr. Marvin H., "Effects of Shoe Soles on Putting Green Turf," U.S.G.A. JOURNAL, XI-6 (NOV.) 1958.

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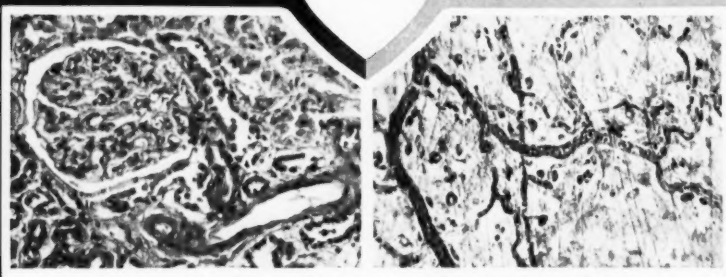

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References: 1. Moyer, J. H., and others: Am. J. Cardiol., 3:113 (Jan.) 1959. • 2. Bodi, T., and others: To be published, Am. J. Cardiol., (April) 1959. • 3. Fuchs, M., and others: Monographs on Therapy, 4:43 (April) 1959. • 4. Montero, A. C.; Rochelle, J. B., III, and Ford, R. V.: To be published. • 5. Rochelle, J. B., III; Montero, A. C., and Ford, R. V.: To be published.

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Source: Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: The Treatment of Diabetes Mellitus, ed. 9, Philadelphia, Lea & Febiger, 1952, pp. 701-702.

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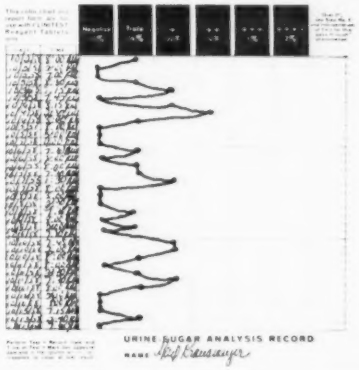

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